THE CULTIVATOR.

THIRD — To Improve the Soil and the Mind. — SERIES

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The Farmer's Discouragements.

Say what we may of the pleasure and desirableness of the profession of the farmer, it will often be found full of difficulty and discouragement. Especially to those whose out-look is circumscribed by the present time and scene, there will be many seasons of darkness and disaster, when hope wanes, and a feeling of loss and failure beyond recovery or repair, will fall upon the heart. This is true of members of every calling, no doubt, and it may be true, too, that the farmer will rise above such thoughts—will find new hopes and new cheerfulness, more readily than others. So at least we believe—yet it may not be useless to recall some of the discouragements to be met by every tiller of the soil.

One difficulty—and it is not a small one—is the lack of sufficient means to carry our plans into successful operation. We see very often openings for improvements—improvements which would tend largely to our advantage—but which we have no means at command to enter into; hence the sight is only a discouragement. The *product* which we can arrive at, to speak arithmetically, is so much less than a little larger *multiplier* would have made it, that it is difficult to be satisfied with our meager result. We must narrow and compact our plans, or add to our ways and means of carrying them out—the one a discouraging and the other a difficult process, as all will acknowledge.

A second difficulty is to adapt the means at command to the real furtherance of the ends desired. We cannot always readily decide what crop will best succeed on our soil and in the market. What the season will be is beyond our view, and what blights and insects may prevail is generally very uncertain. It is not only true that we cannot, from lack of means, *do* as well as we know, but that we do not *know* as well as we ought, the difficulties to be met, and the best means of avoiding or encountering them. Our remedy is to observe closely the teachings of experience—other men's experience as well as our own—and let every failure or success give us a lesson for the future. We must watch and study even minute particulars influencing results, and then generalize deductions from the whole mass of observations, in order to make them reliable. Principles in agriculture must have more than mere inferences for their establishment—they must be grounded on a long series of like causes productive of like effects.

It is a source of loss and discouragement to the farmer that he has so many contingencies to provide for. He wishes, for instance, to plant a field of corn—it depends on the weather when the land will be fit to work and planted, and largely on that time and the subsequent season, whether the crop will prove profitable or not. If the season is bad, he not only loses in the lessening of the crop, but in the decreased amount of labor which, though paid for, there has been no opportunity to apply. Not only in planting, but in tending, securing, and marketing a crop, there are many contingent sources of loss and vexation. A clear head and a sagacious foresight, may find ample exercise in carrying on the simple operations of a farm, and they are needed, and we believe rewarded as well in the profession of agriculture as in most other pursuits.

Much can be done to provide against loss from changes of season, etc. Some soils are fit to work earlier and for a longer time than others—these are friable and well-drained soils—we must give that character to all our lands as far as possible. Some farmers have the knack of making the most of rainy days, and the odds and ends of time—we must learn the lesson and practice it. In order to do this, it is often desirable to carry on more than one branch of agriculture—combining grain and fruit-raising, stock and wool-growing, and the dairy, to a greater or less extent, so as to have a resort for employment and support should one or more prove unprofitable, as is sometimes the case, and from causes beyond our foresight or control.

A fourth difficulty is to judge of the prospect of the market—to choose the best time and place to dispose of a crop—and also to foresee what will be most likely to repay attention. But this is becoming less and less difficult—the extent of the demand and supply can be known and calculated upon, far more readily than formerly. Railroad facilities for transportation are now such, that prices in the great commercial

centers need fluctuate but slightly to be felt in every corner of the land. It is only in the more bulky products that this uncertainty most prevails. These must be at extreme prices to bear long transportation—and a local surplus or scarcity only affects a small portion of country; these prices vary largely with the varying amount produced.

But the greatest difficulty and discouragement of the farmer, as we just remarked, arises from the disproportion which exists between the amount of land farmed and the means employed in its cultivation. Thorough work is always the most profitable; if not at once, it proves so in the long run. The farmer who runs over a large farm will often complain that his crops are a failure, while he who does thoroughly as far as he does at all, will get better returns from his few acres than the other does from many. We should be on the look out for the many things which a wise enterprise and determination turns so readily to advantage. Difficulties and failures should not dishearten; they should make us but the more earnest to overcome them. Study and *push* smoothe the path to success; and there is no success without deep thought and earnest labor. We are afraid that a great portion of the trials and discouragements which many farmers meet, would meet them in every employment, unless undertaken in a different spirit from that with which they now go on their way.

The Indian Corn Crop.

So much has been published in the agricultural papers in past years, in respect to the history, culture, and the value of Indian corn, that it would almost seem that nothing new could be written, or that any thing farther need be said upon the subject. It is now nearly two hundred and forty years since the white man commenced the culture of this inestimable cereal in New-England, and notwithstanding the greatly increased culture of other cereals, roots, fruits, &c., Indian corn has lost none of its importance as an agricultural product, but seems from statistical returns, to be annually increasing in quantity, and in public estimation and value, as one of our important national or staple crops. This is due to its intrinsic worth as a bread and a meat producing cereal, in connection with the facility and certainty of its producing fair returns under proper culture, and the wide range of latitude in which its different varieties can be successfully grown.

In looking over a large number of published statements by different farmers, in reference to the cost and culture of an acre of land in corn, or the cost per bushel, we find a wide difference in their estimates. In these statements we do not refer to the easily tilled and fertile soils of the West, where in favorable seasons corn can be grown at a cost that seems almost incredible to the farmers of the New-England States. But even there the estimated cost by different farmers, ranges all the way from thirteen cents to that of one dollar per bushel. Corn raised at a cost of thirteen cents, and sold at one dollar per bushel, if the crop amounts to sixty or more bushels per acre, pays a large profit for the use of the land, labor, &c., while in the other case the corn just balances the expenses of the crop. But the above contrasts, perhaps, seldom in reality occur. In one case the farmer will charge the highest rate of rent for the use of the land, and for labor and manure, while the other will put the charges at the lowest point, charging a portion of the manure to the succeeding crops, and crediting the fodder, pumpkins, beans, &c., for all they are worth—and this deducted, serves to lessen the charges of culture very much.

There is a great difference in the quality of soils for growing corn. Some soils are so constituted that they will yield heavy crops for a long succession of years, without the use of manures. Other soils are known as naturally good corn land, but require liberal manuring to insure heavy crops; while other apparently good soils, contain so much acid or irony matter, that with good culture and manure, they usually fail to make in the crops profitable returns for the expense of culture. Such soils had better be devoted to some other purpose than that of attempting to grow corn upon them. It makes a material difference in the farmer's profits, whether he grows, at about the same expense, sixty bushels of corn per acre, or only twenty.

In good seasons, with good and careful culture, corn is one of the most profitable farm crops grown in New-England. Of nearly forty crops of Indian corn offered for premium in Massachusetts, the average profit over all expenses exceeded $51 per acre.

In order to insure a heavy crop of corn, in addition to a favorable season the soil should be adapted to its growth, and it should be rich, either naturally, or made so by manure; it should also be well and evenly plowed—the depth of the plowing should be graduated somewhat by the depth of the surface soil, and the quality of the subsoil. After plowing, it is important to have the soil thoroughly pulverized and brought to a fine tilth by the use of the roller, harrow, and cultivator. This greatly facilitates the extension of the roots of the plants in every direction through the soil, and saves much time in planting and after culture. It makes a material difference in the cost of growing an acre of corn, whether it takes one day or four to hoe it each time. We have more than once seen a greater difference in hoeing an acre of corn, than above named.

The varieties of corn are very great; some producing good sized ears, and small forage—others, a much larger growth of "stalks and butts," without anything like corresponding sized ears. Most farmers plant corn for its grain, not for its fodder; the larger the growth of stalks, &c., the greater the exhaustion of the soil. Therefore in selecting a variety of corn for farm culture, it would seem to be an object to grow that variety that would give the greatest amount of grain, according to the amount of forage. As a general rule, those varieties mature earliest that yield the least amount of fodder. Some seasons it is a matter of much consequence that the farmer plant an early variety of corn; therefore we think it is the safest way to plant those varieties, (having reference as far as practicable, to productiveness,) which soonest come to maturity.

PIPES FOR CARRYING WATER.—I have had some experience in carrying water in pipes to supply our dwelling and barn-yard, and for the information of your correspondent I will say, I should use wooden pump-tubes to bring the water from the spring to the house, and from the house to the stable, lead pipes, half an inch, or three-quarters, is better—the wooden tubes may be either white pine, spruce, or chestnut. Logs six or eight inches through, will answer a good purpose, and last a great many years—seven or eight feet long would be a proper length, bored with an augur one and three-eights of an inch in size. REED MILLS.

The Wire Worm.

On moist, loamy soils of a mucky character, the ravages of the wire worm are sometimes extensive and desolating. An old farmer estimates his losses from this cause, when he first began farming, to be greater than the whole expenses of carrying on his farm and supporting his family; but after becoming acquainted with their habits, and experimenting in their destruction for many years, he now has nearly rid his land of the pest. On sandy and gravelly loams, with but little vegetable matter, they seldom become very troublesome, yet we generally find some in such soils on plowing it after lying long in grass. On newly cultivated ground they are always more plentiful than on old land, probably from not being disturbed during the long period required for passing to the winged or perfect state.

The "Agricultural Survey" of Seneca county, given in the *N. Y. Ag. Transactions* for 1850, contains figures and a description of this insect, for popular use—the only one we remember to have met with. Mr. Delafield says:

"The bug parent is familiarly known as the snapping-bug, so called from the noise made by throwing itself into the air, when from any cause it is turned on its back—the action restoring the insect to its proper position. The worm is about one inch long, having six feet; it is slender, tough, and hard; it is said the worm continues five years before its transmutation to the perfect insect state, during which time it feeds on the *roots* of wheat, barley, oats, corn, and grass."

The remedy suggested is fall plowing, whereby their winter arrangements are disturbed, and their lives finished by the extreme cold. A repetition of this course for a few years will lessen their numbers materially.

It has been said that salt would destroy the wire worm, and the same assertion has been made in regard to lime. Experiment shows that these applications have no effect upon the worm whatever. Some years since, a farmer told us that he had destroyed thousands of the bugs which produce them, by placing straw in rows a rod apart on his wheat fallow, and then, when the insects had collected beneath it, burning the same. But fall plowing and frequent culture may be relied upon, and at the same time furnish the best preparation for the growth of crops.

To fit sward-land which was infested with wire worms, for corn, we should manure and then plow immediately before planting. By this means the worms would be buried out of the way, and supplied with plenty of food in the roots of the grass, so that they would not injure the corn to any extent; such has been the experience of many farmers. For any crop suited to green sward, the same would be a good course; but beyond corn and potatoes, there are few crops which succeed well, and hence most would do better if the sward were plowed late in the fall. Land planted to corn as above, should invariably be plowed in autumn for the next crop, or the product would be likely to be destroyed or largely injured by this pest.

An effectual method to rid the land of wire worm, is to plow very late in the fall, and work thoroughly the next season until time to sow buckwheat, which if sowed the next year also,—following the same plan of fall plowing and culture—will totally eradicate them, giving at the same time two valuable crops. This grain seems quite offensive to the wire worm, and growing close and thick, it leaves nothing for them to feed upon, and thus starves them out. Other plans may be as profitable, but we leave them to be suggested by our attentive correspondents.

Manuring in the Hill for Corn.

The question of applying the usual domestic or barn manures to corn, in the hill at planting, or over the whole surface before that time, is one which we have not seen particularly discussed in our agricultural journals, though often mentioned as practiced, or *vice versa*, in accounts of the culture of this grain. From observation on this point, we conclude it more common in New-Hampshire than elsewhere, where indeed it was learned from the aboriginal corn-growers. We have heretofore, from results in our own experience, recommended manuring in the hill, in addition to a good dressing over the whole field, as productive of an essential improvement in the crop—giving an earlier and stronger start, which advance it keeps through the whole period of growth.

Some experiments in corn growing, comparing hill manuring with its application over the whole surface, are given by Mr. Baker of Oak Hill, in a recent *N. E. Farmer*—and thinking it will interest, we condense the same for our readers. Five plots of an acre each, were planted the last of May. On the first, twenty loads of long manure was spread and plowed under, eight inches deep. On the second, ten loads of fine barn-yard manure were spread on the surface after plowing, and thoroughly harrowed before marking. The third acre was manured in the hills—two quarts of very fine stable manure to each. The fourth received in the hill, one quart of compost—two parts muck, two parts hog manure, and one part each of lime and ashes. The fifth acre, for the purpose of comparison, received no manure. The kind of corn planted was the yellow smut or red blaze, the kernel of which is large and flat, and the ear good size. Making no account of the soft corn, it produced as follows: No. 1, 84 bushels of ears; No. 2, 90 bushels; No. 3, 99 bushels; No. 4, 95 bushels; No. 5, 68 bushels. From these results, he concludes that for present profit, manuring in the hill is the best, and decomposed barn manure harrowed in, produces more effect than green dung plowed under—at least on the first crop.

Most commercial manures, as guano, superphosphates, poudrette, etc., have been applied in the hill exclusively, so we have no means of comparison of the effect of the same broadcast. Of fertilizers of domestic production, hen manure has more generally been applied in the hill for corn than any other material. It is plentiful, of a concentrated character, and readily prepared and applied, while there can be no question as to the profit arising from its judicious use. As hinted before, this manure and others of like character, give the young shoots an early and vigorous start, and enable it the sooner to strengthen itself, by extending its roots to more distant stores of food.

The effect of manuring in the hill exclusively, would seem to be less calculated to benefit the next crop than if applied over the whole ground, though the active or thoroughly decomposed character of the fertilizers thus used would leave little benefit to be expected the second year. But we leave the question with our readers, simply remarking that while we would commend plentiful broadcast manuring in all cases, we would also advise the application of some concentrated fertilizer in the hill, believing it will in all cases prove profitable by forwarding and increasing the crop. Indian corn cannot well be surfeited by high feeding—and above most grains, uses and repays a plentiful supply.

Reclaiming Swamps—Surface Draining.

Swamps and Marshes Abundant—General Characteristics—Draining and Clearing give them High Value—Situation, Conformation and Subsoil—Sources of Water: From Springs and Adjoining Slopes; the Drains Required—A Recent Example of Surface or Open Draining—Eighteen Acres of Mirey Swamp Drained for $50—Clearing and Crop—Treatment Recommended by an Experienced Farmer.

All over our country are found frequent portions of boggy land, covered for the whole or a part of the year with water, and producing little or nothing of value to the farmer. These tracts vary in size, from less than one to several thousand acres, and the character of their vegetation is also varied. Some are covered with coarse ferns, flags, and grasses; others, with small bushes; others still, with alders and willows, and an occasional elm, birch, soft maple, or black ash sapling. They are characterized alike however, by a deposit of muck of a greater or less depth, and by the presence of sluggish or standing water for a considerable portion of the year. To render such lands of the highest value for agricultural purposes, draining and clearing are necessary, and it is of these operations that we propose to speak in the paragraphs which follow.

The water—the original cause of the swamp or marsh—sometimes arises from springs, which break out in a comparatively level spot, and from a sluggish stream which overspreads and saturates a comparatively wide surface; in other cases, the water seems to run in principally from the higher land surrounding it—the marsh occupying a natural depression or basin. In most, if not all cases, the subsoil is of a retentive character, (otherwise the muck would not have been formed,)—often a pure blue clay, through which water penetrates with great difficulty, and in almost inappreciable quantities.

Where springs supply the water, good and sufficient drains should be opened to carry it readily away. If a number of springs exist, each one must thus be tapped; and if possible, the general outlet should be of sufficient depth to take off all water within three feet of the surface. If the springs are numerous, and, as in some instances coming under our notice, do not come to the surface in any very marked places, the ditches should surround the boggy plot as well as penetrate it at frequent intervals.

When the supply of water comes from rain and snow, and the drainage of surrounding slopes, aided by the retentive character of the subsoil, a different treatment seems necessary. Ditches must intercept the inflow of water—running around the plot at the point where upland ceases and swamp or marsh begins. These will divert and carry away the surplus water, and by the aid of frequent drains across the marsh, proportioned to its extent, will soon change the character and value of the land. The stagnant pond, the miry slough, and the boggy marsh, will soon become firm ground to the foot of man and beast, and when cleared, will yield most ample and surprising returns for the expenses of so desirable an improvement.

As a recent example of *surface*-draining of swamps, (we will give one of *under*-draining hereafter,) we may cite the reader to the statement of C. L. Kiersted of Ulster Co., given in the March No. of the *Journal* of our State Society, and to whom was awarded a premium of $10. He had on his farm eighteen acres of such land, "most of it covered with roots and stumps; the surface very soft—cattle or horses could not go upon it, except after a long drouth, without becoming mired." In company with the owner of the adjoining lands, they opened an outlet at an expense to each of about $25—a part of the work too often hindering the improvement of such lands materially, for the want of union of purpose between those interested. During the season he fitted twelve acres for crops—seven in time for planting to corn. He cross-ditched and drained it, and plowed with a lap-furrow, it having a sward of water grass; prepared it for planting in the usual way, but on the most of it, put a small handful of horse manure in each hill, with a view "to warm the hill." The manured part yielded some 185 bushels of ears per acre. After finishing this, he drained about five acres more by cutting a ditch around it, three feet deep and a little over four feet wide at the top; on this he grew turnips, cabbages, and buckwheat. He afterwards ditched the remainder of the lot in the same way, drawed out the roots and stumps, cleared off the briers and bushes, and has the entire plot plowed for corn the present spring. It is in beautiful order, as mellow as ashes, and he confidently expects a large crop. The whole expense of draining incurred by Mr. K., is $51.40, and the land is now valued by him at $200 per acre.

Mr. Kiersted says he has had many years experience in draining swamps in Greene county, (his home until within the last three or four years,) and always met with the best of success—has made them the best and most productive of any part of his land. He prefers open ditches to covered drains—cleaning them whenever it becomes necessary. (We have found a good deal of cleaning necessary in our own experience, in a case where the fall was slight, and the earth through which the outlet must be dug, the hardest kind of hardpan.)

The culture and crops Mr. K. recommends are worthy of mention, and must close our present notice of the subject. "Swamps composed of peat or muck, should be planted with corn or potatoes at least two successive years, then seed down in the fall with about half a bushel of timothy—keep it in grass but two years, then plant again, use 200 bushels slacked lime to the acre; plant two years, then seed again—the longer you work it in this way, I think, the better."

Milk for a Pound of Butter.

MESSRS. EDITORS—The article in the "Country Gentleman" of 24th ult., headed "Milk for a pound of Butter," induced me to test the yield of my cow, which calved on the 13th of January last.

During the week ending yesterday, March 7th, her calf being now nearly 8 weeks old, she gave 128 quarts of milk, which yielded 14 pounds 9 ounces butter. This is a large return, but would have been still larger, had the last three days been equal to the first four, which was not the case, owing to the cow's indisposition. Her best yield was large, 2 pounds 2 ounces butter per day, from an average of 19 quarts of milk.

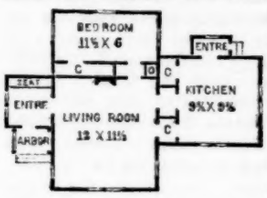
She is a large, heavy cow, short-horned, black with white marks, and about 9 years old.

Her previous calf was born 1st of August, 1856. From various causes she did not produce another until the date first mentioned, and kept in milk in to October of last year, more than two years and two months, when I dried her, her milk having been sufficient to supply my family during most of that time.

Of course, as I did not breed this cow, I have no merit in the matter, and can only say that I consider myself very fortunate in having her, but I should like to see a better return. SUBSCRIBER.

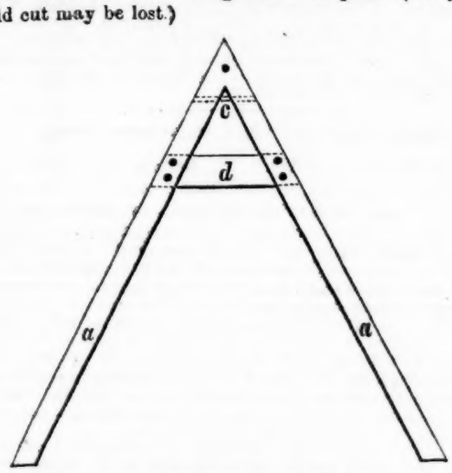
Laborer's Cottage.

The accompanying design of a neat and ornamental laborer's cottage, was furnished by LAWRENCE B. VALK, architect, 627 Broadway, New-York. The views and plans furnish of themselves all the necessary information in relation to it, being but one story. He assures us it was actually erected for $360, for the owner in New-York. A peculiar mode of ventilation is adopted, the openings for which are indicated in the view, but he has not favored us with an explanation of the mode.



Stump Machine.

EDS CO. CENT.—In your issue of Feb. 24th, a Maine correspondent gives a description of his stump machine. After careful study, I must confess I cannot understand the "modus operandi" of the machine. I have seen machines costing from $200 down to $3, and for efficiency, the last are the best. In the Cultivator, some fifteen years ago, there was a cut and description of a machine, which we have tried; and it invariably work well. I enclose a drawing and description (lest your old cut may be lost.)



a a—Side pieces, 10 ft. (or more) in length.
b—Cross pieces, 2½ ft. long, 8 inches wide, and 2 inches thick.
c—Bolt of iron 1¼ inches in diameter (to draw by.)

The side pieces may be of peeled bass-wood, or hemlock, 6 inches in diameter; or of *good* soft wood scantling 6 inches square. An iron band should be put around the apex. The bolt *c* should be as near the top as possible, leaving enough room for the chain hooks. Cost about $3.

Now for the "modus operandi." Yoke up the oxen (or harness the horses; either can be used,) borrow chain enough of your neighbors, so that you will have 60 or 80 feet; the more the better; hitch a chain hook on the bolt of the machine, drawing it as you would a three cornered harrow. When you get to the stumps, dig on one side of one, so that a chain can be passed around a strong root. Set the machine up, astride of the stump, leaning a few inches from the perpendicular, towards the side where the root has been dug around. Hitch your strongest chain to the root and to the bolt c. The remainder of the chain goes from the bolt to the team. Start the team slowly, and as the machine rises to a perpendicular, it lifts the stump a little, and the chain being so high the stump is easily pulled over. The lifting power at first is immense, and if the back chain is not very strong it will snap. The machine might be made still higher, but it would be too heavy for two men to set upright. If a man made it for himself the whole cost would not be over $1.50 D. A. A NICHOLS.

Winter Cherry—*Physalis viscosa.*

MESSRS. EDITORS—As most persons like a "good thing," I wish to call the attention of your many readers to a vegetable which is, undoubtedly, good. It is the Winter Cherry,—*Physalis viscosa*,—a plant that should be cultivated in these times when the larger fruits are scarce. It has various names, as the Ground Cherry, Tomato Gooseberry, French Tomato, Strawberry Tomato, etc., but its true American name, Winter Cherry, is given it from the fact that it will keep three or four months as good and fresh as when gathered from the plant, by being put away in boxes in the husk or capsule. The plant grows about two feet high, branching, leaves entire, pubescent; fruit enclosed in a husk or inflated calyx, from which it gets its generic name. The fruit is about one half an inch in diameter and of a light orange color, and when very ripe it is transparent. It falls to the ground when ripe, and can be seen through the husk.

It is one of the best fruits for pies there is; makes a preserve which tastes very much like honey; makes an excellent pickle, and is said to make an excellent wine; but it is chiefly used for pies and preserves. It is cultivated much the same as the tomato. Planted about the first of May, it will come up about the last of the same month, and you will have ripe fruit the last of August. The seed is "slow, but sure" to germinate. It is a good plan to sow some of the seed in a hot-bed, to have a few early plants. It yields abundantly, sometimes a quart to each plant, and consequently it takes but a few plants to supply a family with plenty of fruit.

When once introduced into a garden, there is no fear of losing it, as it will come up from seed dropped the previous fall, and I think that if it is once tried and cooked, no person will be willing to be without it again. It is truly a valuable fruit, and I think will ere long be grown in most places, at least it should be. F. A. FLEMING. *Curwensville, Clearfield Co., Pa.*

We procured the seeds of this plant from our Shaker friends at Niskayuna, ten or twelve years since, and have never had to sow them since, as an abundance of plants spring up in the spring from self-sown seeds, proving their entire hardiness. Many persons are very fond of them, and as they are a sure crop, are well worth planting. We have kept them in a drawer where they would not freeze, through the winter, as sound as when first gathered., and with rather an improvement in the quality of the fruit.

There is another variety of this fruit. *Physalis Alkekengi*, a native of the south of Europe, which we have not seen, but which is said to be nearly double the size of the Viscosa, and of equal value for eating and culinary purposes. WM. THORBURN of this city, has the seed of the Alkekengi for sale, and will have the seed of the Viscosa if it can be procured.

BOARD DRAIN.—A good under-drain is made by digging a ditch three feet deep, and one foot wide in the bottom. Split boards fourteen inches long; set them in at one side, and lean the upper end against the opposite bank. A little brush or hay should be thrown on them and then fill up. P. M. *Des Moines, Iowa.*

Visit to a Swiss Cheese Dairy.

From a letter from a correspondent, published in the COUNTRY GENTLEMAN, we select the following account of a visit to a Swiss Cheese Dairy, on one of the highest mountains of Switzerland:

We had not been there very long before the weather became cloudy, and we decided to go to one of the châlets, which we saw in the distance, surrounded by a herd of cows, and otherwise showing signs of being occupied, to rest us for a short while and wait for the shower to pass off. Our path led us among the cows, a large herd of fine animals of the Swiss breed, well known for its milk giving qualities; the cows are large and bony, but ill-shaped for fattening purposes, being very large feeders, and I believe not very easily kept, but giving a great quantity milk, the average product of dairy cows being about 1000 gallons each, every year, and a great many cows milking from six to eight gallons a day, when fresh, but the milk is not as rich as it is generally in this country. It is not without some anxiety that the traveller passes through one of these herds, for although the cows are very gentle, they are generally accompanied by a bull, who is often very dangerous from being ill-natured, and woe to the stranger who excites his displeasure, if no tree or rock is at hand to hide him. Accidents from those animals are very frequent, and a mountain where it is known that the bull kept is ill-natured, is avoided by every body. We passed without accident, and in the house found two or three men who received us kindly, and I resolved to take the opportunity of viewing the whole establishment, and to take all the information possible on their business.

As it may interest your readers I will try to describe all I saw there in the way of cheese making. Switzerland is renowned for its cheese, which is one of its staple products; some of them, such as Gruyere, rank among the best in the world; and the largest quantity is made on the mountains, in such chalets as we were in. The building was made of stones, low and tight; one end of it used to stable the cows, and partitioned in stalls provided with halters to tie the cows; the floor was laid with strong planks, worn so smooth by use, as to make it difficult to stand upon; the cows were stabled night and morning to be milked, and the manure cleaned, and the floor swept twice a day; at the other end of the building, separated by a stone wall, stood the kitchen, used as well to cook as to make the cheese, and above was a kind of loft where the men slept. The whole establishment seemed of the most primitive order, and the utensils very few in number. Soon after milking, the milk yet warm, was poured into a large kettle, and heated to 78 or 80 degrees, then curded; after a while the curd is finely broken with the hands, and then heated again to the same heat for only a few minutes. The curd is then gathered with a large milk pan, all at once, and immediately transferred to the press. By that method the cheese keeps all its flavor, and is most tender, the curd being very soft. After it has staid about two days in the press, it is carried to the cheese house, a tight log house, the logs hewed square and laid close one on top of the other with moss in the crevices, and there rubbed with salt and turned over every day for a few weeks, and then carried down in the valley where it is sold to large dealers in the fall, and brings about six cents a pound. The Swiss cheese is very delicate while young, and neither cloth nor paint can be used to protect the rind, as it must be rubbed with salt; and to enable it to cure well the cheese house must be tight and not too dry, to prevent the rind from cracking. The grass on the mountain is generally short, very nutritive and high flavored, and the method of the cheese makers is evidently adapted to give all the strength and taste of the milk to the cheese.

These chalets are often extensive establishments, containing sometimes upwards of two hundred cows; the cows do not all belong to the same men, but are generally rented for the summer from the farmers in the valley, by the chief dairyman, who also rents the pasture and buildings and hires hands to help him in his work. Their life is not laborious or disagreeable, but they are often very lonesome, especially on those mountains which do not possess attractions for the travellers; they hardly ever see anybody during the entire summer, and their only intercourse with the world below them, is when they go for provisions, which they must carry on their backs from the villages. The men we found in the chalet on the Rochers de Naie seemed perfectly contented and in good spirits; they were kind and obliging, showed us everything, gave us plenty of cream, and charged full price for it, and otherwise seemed perfectly well posted in the ways of the world.

In the valleys, the farmers who do not rent their cows, or after they have come back, associate together to keep a dairyman to make their cheese. In every village is found a large building used as dairy-house; there, night and morning, the farmer brings his surplus milk which is credited to him, and when his turn comes to get the cheese, he is charged all the milk brought that day, and his account balanced; if he is yet in debt he must bring on milk till he is even, before he starts a new account; the dairyman is boarded and paid every day by the person who gets the cheese. The building and utensils belong to the village corporation and are used free of charge, every inhabitant, however poor, having a right to profit by the advantages of the establishment.

Keeping Bees in Rooms.

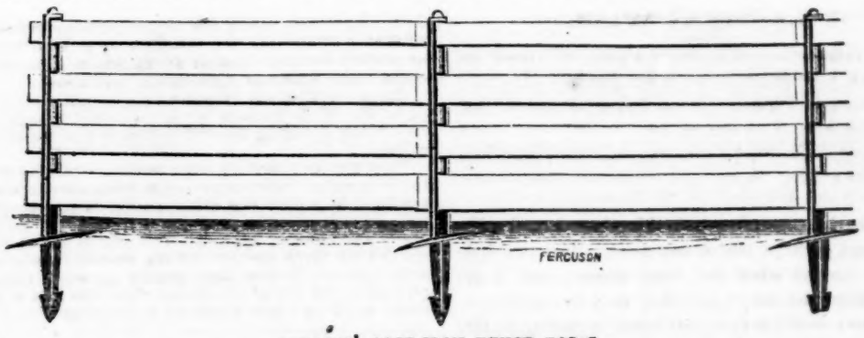
MESSRS. EDITORS—I have in my wood-shed chamber a box four feet high and three and a half feet each other way, in which I have kept bees for twenty years, and I think it is the plan which W. R. in the Country Gent. of Jan. 27, would like. I set a common hive on a shelf which covers abont one-half of the bottom of the hive, and the shelf is about two feet from the bottom of the box, and on the front side. After the bees fill the hive, they work on the outside, and there should be a few slats laid in so that they can fasten their comb to them. I keep the box perfectly tight and dark, except where the bees go in. I have never had them swarm, kept in this way. In cold weather, we take out honey as it is wanted, and I never saw it of finer quality from any source. It will be necessary to change the swarms after they become old, and the comb in the hive too much filled with bee bread, &c. H. *Shelburne, Vt.*

Remedy for the Squash Bug.

I should think that Mr. I. W. BRIGGS, with all his ingenunity, would long ere this, have discovered a remedy for the "bugs" that infest squashes, cucumbers, pumpkins, &c. I give the remedy. Take a quantity of poppy leaves, stalks, buds, &c., or any part of the poppy, and steep in water either cold or hot; and if poppies are not to be had, take a small quantity of opium and dissolve it in water. This liquid, applied with an exceedingly fine sprinkler to the vines once or perhaps twice, will cause the "varmints" to leave the plant never to return. Where they go to I do not know, neither do I care. It will not kill the bugs, for they know better than to *take* anything of an opiate nature. Let friend Briggs try this, and whatever "humbugs" there may be in the world, I can assure him there is no "humbug" in this.

The same liquid, applied with a squirt-gun to apple trees, effectually prevents the ravages of the apple tree worm. An ounce of opium would probably be sufficient for a large orchard. G. W. DURANT.

TURNIP FLY.—If "Gustavus" will apply unleached wood-ashes, immediately after covering his turnip seed, (say a good sized handful to each hill, if planted in hills,) directly over the seed, I think it will in a great measure prevent the ravages of the bug or fly, and it also keeps the soil moist and loose, thereby causing the seed to vegetate sooner, and come forward more rapidly afterwards. WM. F. BASSETT.



JENKINS' CAST-IRON FENCE POSTS.

Jenkins' Cast Iron Fence Post.

MESSRS. EDITORS—The numerous letters of inquiry received by both Mr. Jenkins and myself in relation to the *Cast Iron Fence Post*, since the publication of it in the Country Gentleman of the 13th ult., has induced me to send you an engraved illustration of it, and of the fence built with it.

I do this, not, I assure you to impose on your time or space, but because these inquiries all come from the readers of your valuable paper. Occular demonstrations are always more intelligible and satisfactory than verbal ones, particularly of new inventions and articles with which the reader is not familiar.

The length of this post is six feet; breadth, three and a half inches; length below cross-piece, eighteen inches, tapering and terminating in a barbed or spear head bottom. Cross-piece eighteen inches long, with mortice or slot in middle, through which the post is inserted, and made to wedge firmly at the depth of eighteen inches—the margin of the post on both sides is provided with a band or flanch five-eights of an inch wide to stengthen the main plate, which is one-quarter inch thick, and below the cross-piece on each side is a rib for the same purpose. The mortices for the boards are all two inches wide, and the first or bottom one, ten inches long—the second, nine—the third, eight, and the fourth, seven—these can be made any size required.

A three board fence, constructed with this post, properly banked or ridged, is thought by most who have examined it, of sufficient height for any ordinary farm fence. The fence built by Mr. Jenkins, some eight years ago, (mentioned in my former article,) is a three board fence, (and common inch hemlock at that,) without any stay lath or other support for the middle of the panel, and standing on the side of a public road. Mr. J. tells me this fence has never been repaired, and now stands as erect and apparently as good as when first built, not having been disturbed by cattle or the frost.

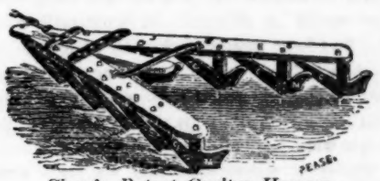
I would, in all cases, except when used for hurdles, recommend this fence to be more or less banked or ridged, as its permanency depends very much on the cross-piece being buried from six to ten inches. When the plow is employed to construct the ridge, a team without whiffletrees should be used, or else the ridge should be made before setting the posts, as otherwise there is a risk of breaking the posts by the whiffletree coming in contact with them. For prairie fencing, this post cannot be excelled.

In answer to the inquiries as to their strength, let me here say that my friend, Mr. Jenkins, who has had them in use so long, and never one broken in the fence, and others who have examined them and the fence, entertain no doubt of their sufficiency for a good and substantial cattle fence. As all ordinary forces must necessarily be applied to or against the edge of the post, it offers the resistance to all such forces of an iron bar three and a half inches across, by at least half an inch in thickness.

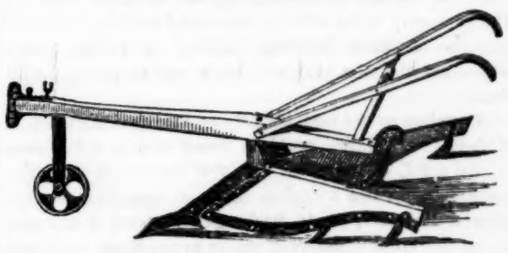
A. S. ROWLEY. *Hudson, N. Y.*

Shares' Cultivating Implements.

We recently published an engraving of Shares' Potato Covering and Hoeing machine. We now add engravings of the two other implements invented by Mr. Shares. The three are manufactured by Messrs. Pease and Eggleston of this city, to whose advertisements the reader is referred for further particulars.



Share's Patent Coulter Harrow.



Share's Cultivating and Hilling Machine.

Scotch Fife Wheat.

C. (Wisconsin) writes deprecatingly of the "Fife" Wheat, as compared with the Club variety. Club Wheat was a favorite here, until the "Fife" or Scotch Spring Wheat was introduced some years ago. It has held its ground against all competitors as yet, and our millers have never raised the objection spoken of, while the Perth bakers (Scotch) who make as good bread as is produced *anywhere*, give it the preference over every other Spring variety. Out of 100 returns for 1858, to our Bureau of Agriculture, 60 state that no rust affected the "Fife or Glasgow Spring Wheat," and no returns state that it did, although the rust has this year been nearly as destructive as the midge. From rather less than two acres of fair land, only moderately manured, and a season unusually wet, seed sowed broad cast, we measured 60 bushels of Scotch Spring Wheat, as it came from the thrashing machine, with cleaning apparatus attached. The wheat weighs about 62 lbs. to the measured bushel—yields in flour, after the miller takes his toll, (1-12th) 42 pounds., besides the bran, &c. Better tillage, and the seed drilled in, would give larger and heavier heads. W. O. BUELL. *Perth, C. W.*

Pumping by Wind.

I wish to pump the water out of a pond of three acres, in order to get the mud or muck for manure. In order to do this, the water is to be raised 28 feet and led in a spout over a dam. The pond has no outlet, and in summer is quite low. Can any of your subscribers inform me how I can best rig a pump to go by wind power, to accomplish this. If so, please publish in the Cultivator, which paper I take. What would be the probable cost of such a pump and fixtures? S. W. RANDALL.

There are two ways in which this water may be discharged, and perhaps one or two more. The two first-mentioned are by wind and horse power; and if the ground admits, the use of a syphon may be added.

A "horse-power" is reckoned equal to raising 33,000 lbs. one foot a minute, but common horses will not do much more than half his. Three acres are equal to 480 square rods, or about 130,000 square feet; consequently to lower the pond one foot would require the lifting of 130,000 cubic feet 28 feet high. Making allowance for the friction of machinery, one stout horse would raise about 250,000 lbs. a day, and it would require the labor of a horse at least one month to lower the pond one foot. Our correspondent does not inform us the depth of the water, and we cannot therefore say how long before the drainage would be effected. A wind-mill with sails each five feet long, would work with about the force of one horse in a brisk wind—supposing such a wind to blow half the time, it would require two months to lower the pond a foot. We are unable to state the price of Halladay's wind-mill of this size, (the only self-regulating wind-mill whose operation we have witnessed, that has uniformly succeeded,) but we think with all the necessary fixtures for its successful working, it would cost two or three hundred dollars. A forcing pump would answer, or a very well made suction pump, for 28 feet.

A syphon would undoubtedly be best and cheapest, if a place of discharge could be found within a few rods of the pond, which would be a few feet lower than the pond itself. Such a syphon made of lead pipe two inches in diameter, would discharge in twenty-four hours about the same quantity of water as one horse—if three inches in diameter, more than two horses.

Our correspondent will perceive that any thing short of cutting a permanent ditch to drain the pond, will be attended with much trouble and considerable expense, to remunerate which, a very large quantity of manure must be obtained.

Sugar Cane Mills.

MESSRS. TUCKER—I noticed in the last number of your paper, an inquiry in relation to what is the best mill for pressing Sorghum? This has been a question of some importance with us, and quite a diversity of opinion as to whether iron or wood mills were preferable.

The iron mill has the advantage of a larger yield of juice by 20 or 30 per cent. from its harder pressure; but the wood mill, will be more than that per cent. a head in the *quality* of the product. The trouble with iron rollers is simply that the *citric acid*, contained in the fresh juice, acts upon the iron, and by corrosion of the surface, diffuses a dark color and an unpleasant flavor to both the syrup and sugar, and it is claimed by some that it also prevents granulation.

Very considerable quantities of molasses, and some good samples of sugar, have been made in this vicinity, and the subject has received a good deal of attention from intelligent men; the best samples by far we have produced have been by mills made with rollers of wood.

The recent improvement in iron rollers, noticed in your last paper, patented by Mr. W. T DENNIS, Richmond, Ind., completely meets the objection heretofore existing against their use, and meets with very general favor as the annexed resolution, passed at the late meeting of the Indiana State Board of Agriculture, will show:

Resolved, That the improved sugar mill roller, presented by Mr. W. T. DENNIS, is recommended to sugar growers as entirely obvating the difficulties in the use of the iron rollers.

This improvement simply consists in plating or coating the iron roller with *tin*, or any anti-corrosive metalic composition, by which the discoloration is prevented. This process is applicable to any construction of mill, and is easily and cheaply applied. The mill in use among us, is made with three upright rollers, twelve inches diameter and eighteen inches long, geared to work together by pinions at the top of the upper plate, the first and second roller working ¼ inch distance, and first and third in close contact. Upon the upper end of the shaft of the first roller a lever is fixed like a cider mill, to which the horse is attached, and the canes are fed in by hand. These mills should be made with wrought iron journals, and otherwise strong, as there is great strain upon them.

There will be a large amount of sorghum planted in this State (Indiana) the coming season, and there is hardly a doubt but the whole corn growing region of the west, will, in a very short time, produce their own sugar and molasses, in great abundance and of excellent quality. INDIANA.

Raising Potatoes Under Straw.

EDITORS OF THE COUNTRY GENT.—I think it is at least fifty years since I first saw this plan suggested—in the almanac perhaps, and that, in the average, it has been repeated as often as once a year ever since.

Upon it I remark: 1. The general suggestion is wise. Straw keeps the soil both cool and moist, two most important conditions in the culture of potatoes in a dry summer. Uniformity of moisture and temperature is important in the growth of any vegetable, but especially of one that is tropical, as is the potato, though coming from the mountains there, and hence not requiring much heat.

2. The plan, however, as it is usually proposed, is of little practical value. Thus, a writer in your paper of Jan. 13th, p. 27, laid his seed on the unbroken sod and covered them eight or nine inches thick with straw. He got from *half a bushel* of seed, a *whole bushel* of potatoes—yes, a *whole* bushel, and he thought he did well. For the honor and recompense of the farmer I hope there is not one within a hundred miles of this experimenter who will endorse this judgment. So far from approving of this mode I would plow the ground deeply and well, and furrow deeply also. Then drop the seed and lay the straw on the top of it, using more or less as you have much or little. Last of all, cover the straw with a light covering of earth. This mode will make the straw spread from ten to fifteen times as well as by the other mode. This is the precise mode practiced in the States of Georgia and Mississippi, where potatoes are deeply planted and deeply mulched in November, December, or January, according to the distance south. In this way alone can they secure coolness and moisture sufficient for the common potato, their dry, hot soils being much more natural to the sweet potato. Thus cultivated, the crop is dug in March, April, May, &c. Where straw is laid on the top of the hard ground the potato will not readily draw a sufficiency of nutriment from it, nor will the straw retain its moisture half so well as when covered, nor yield as much food, since "one straw under ground is worth two above."

3. This plan does not include straw alone, but any loose mulchy substances, such as weeds, cornstalks, tanbark (if limed,) sawdust, &c. Indeed, the superiority of well drained swamp muck soils, when old enough to have become sweet, and green swards, for the potato crop is explained on the same principle. Both are retentive of moisture and poor conductors of heat, and thus serve to maintain a uniformity of condition about the hills of the potatoes. At the same time by the gradual decay of the muck and the sward the plant is fed in a more even manner than when the soil is fortified by fresh manure. In all cases the loose texture of these materials is favorable to the ready formation of the tubers under and in them. (See my thoughts on these points in my essay on the diseases of the potato, in the New-York Agricultural Transactions of 1851, pg. 385 and 392.)

4 The plan when confined strictly to straw, even including weeds, sawdust and tanbark, is of very limited availability; for whence, it may be asked, are these materials to be obtained in a quantity one-tenth adequate to

the requisition of potato culture in our country? The ordinary production of straw on a farm would be nohow sufficient to answer the requisition of the potato crop, if always cultivated in this way; and in any case it would be used at the expense of robbing the farm stock of needful bedding. The loss of this straw from the stable and barnyard, would, moreover, lessen the quantity and quality of the manure very far beyond its benefit to the potato crop. Let the farmer ordinarily devote his straw, and other similar waste materials, to the purposes of the barnyard, while he avails himself of reclaimed swamp grounds, but especially of greensward deeply plowed, for the culture of his potato crop. It will certainly sometimes happen that the beauty and even the measure of his potato crop may suffer from worms in greensward, especially when *old* meadows and pastures are broken up. But this occasional drawback will not nullify the general economy of the plan. C. E. GOODRICH. *Utica, Jan.* 22, 1859.

The Sweet Potato at the North.

There are thousands in the northern states who would be glad to raise this luxurious esculent for their own table, had they the evidence that it could be done, and without an unreasonable expense. They have generally supposed that its culture must be confined to the warm climate and long seasons of the south. There is its home—but by being gradually acclimated, it has finally found its way into the appreciating hands and *grounds* of the northerner. During the past two or three years, the efforts to introduce it into New-York and New-England, as well as the north-western states, have been decidedly progressive. The results of these experiments have generally been quite satisfactory—flattering to the experimenters. Many are now so well satisfied of the successful culture of the sweet potato among them, that they are contemplating growing them on a more extended scale in future, for marketing.

The sweet potato as now cultivated in New-Jersey, Northern Virginia, Ohio, &c., is quite different from those of the Carolinas, Indies. &c., being acclimated to this northern climate. The variety which has proved the best adapted to the north, is called the *Nansemond*, from the county in Virginia whence it was taken to New-Jersey, &c. The southern or Carolina tubers are unfit for the north for seed—even at Cincinnati they are never tried but once.

The Nansemond has the quality of being good for table use at any stage of its growth—a peculiarity. We believe this variety to be superior to others for the north, in every respect. Persons who have tried this with others, have invariably given their opinion in its favor, as far as we have known, and we have some knowledge of the matter.

We saw this variety growing finely the past season in Vermont, (at 44 degrees of latitude,) and ate of them the fore part of September. The product was very satisfactory. The same individual had grown them there for several years, procuring seed and plants from southern Ohio.

The sweet potatoes carried into the northern states for table use, are often injured by long carriage and exposure, and many persons who have eaten of these badly cooked, in inexperience have pronounced them "about as good as a frozen Irish potato!" and conclude that the sweet potato is not fit to be eaten

They may be baked or boiled; we prefer the former. A good way is to boil till nearly "done," then place them in the oven to finish, which will make them dry. The main thing is to have them cook quickly. Our folks make excellent pies of them, much in the same manner as pumpkin pies; they prefer sugar for sweetning, and use one egg for two pies. We never get tired of having sweet potatoes on the table—they are the favorite dish the year round.

The sweet potato is propagated by placing the tubers in hot-beds during the month of April, with three or four inches of loose, rich soil over them. The plants are pulled from the tubers about the time the first leaves have attained full size, which takes three or four weeks generally—more or less time, according to the condition of the beds and weather.

This mode of starting them is neeessary, on account of our growing season being so much shorter than that of its nativity. The ground for them is prepared into hills or ridges, (we prefer the latter for general culture,) made high and narrow, so that they may receive the sun's warmth. The plant throws out a number of runners, which often cover the ground with their growth, and produce a beautiful sight. Persons at the north will find it better to procure *plants* from points where this potato matures, except when planting largely. They can be packed by those experienced, to go to almost any point in the northern states where railroads and expresses will carry them—the charge generally comparatively small.

Northerners, *try* this luxury! Success and gratification will be the result. Any soil that will produce corn well, except that which is too rich in vegetable mold, will produce sweet potatoes; the latter soil causes an excessive growth of vines without forming tubers in proportion, in our short seasons. Use animal manure in preference to vegetable—ashes are good. C. B. MURRAY. *Twenty Mile Stand, Warren Co, Ohio, Feb.* 21, 1859.

Winter Bouquets.

We have now in our parlor a very pretty bouquet, which was made in the autumn of 1857—the flowers not yet faded.

To those of your readers who would like to have a fine winter bouquet,

When the last rose of summer
Has faded and gone,

let me recommend the following plants, viz:

Acrolinium roseum.
Globe Amaranthus, purple, white and orange.
Eternal Flower, golden and white.
Quaking grass.
Rhodanthe Manglesii.

And any other handsome everlasting flower which can be procured. But the above will do very well with the adtion of a few handsome grasses, which can be obtained in almost any locality.

The seed of the above can be purchased for about five cents a packet, and should be planted early in the hotbed, or in the house, and transplated as soon as the garden is in order, or the weather will admit.

Gather the flowers before they begin to fade, being careful to have long stems; hang them up to dry, and it will not be long before your bouquet can be arranged to gladden your eyes through at least one cold winter. W.

Making Vinegar Rapidly.

MESSRS. EDS.—Can you inform me through THE CULTIVATOR, of any way to convert cider into vinegar quicker than by the natural process of fementation, which generally takes from one to two years. I. L. D.

In ordinary cases the cider having first become fermented so as to render it alcoholic, may be hastened in its change to vinegar, by the presence of a small portion yeast, brown paper, and grape leaves. It must have air, but not too much—a partially closed bung hole will admit enough—and a warm temperature. The following mode is however much more rapid:—

A barrel is filled, except a vacant part at the bottom with wood shavings. The top is closed by a pan, which fits into it, the bottom of which is preforated by a number of small holes, and through these short threads are passed, to bring down the liquid more rapidly. The shavings, before using, are well steeped in vinegar, which of itself strongly induces fermentation. Near the bottom of the barrel, its sides are perforated by a number of holes half an inch in diameter, for the admission of air, which passes up through the shavings, and escapes through several tubes, passing up through the pan and through the liquid in it. An alchoholic liquor, mixed with about a thousandth part of yeast or honey, is then poured into the pan, and it trickles down the orifices by the threads, spreads over the shavings, and thus has its surface very largely exposed to the air. Before pouring into the pan, it is heated to about 75 degrees, the rapid absorption of oxygen among the shavings soon raises the temperature to 100 degrees; the heat causes a current upwards by the holes in the barrel, through the shavings, and by the tubes in the pan. by which the supply of oxygen is kept up. The liquid passes down, and escapes through a pipe at the bottom. The operation is repeated, and after passing through in this manner three or four times, the liquid is converted into excellent vinegar; the whole time not exceeding twenty-four to thirty-six hours. EDS.

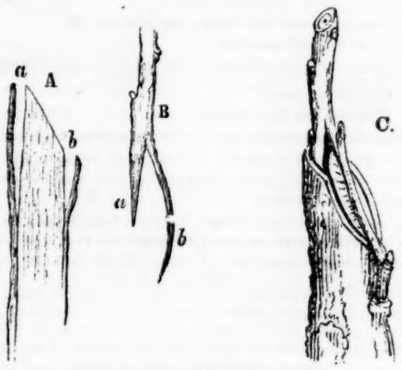
To Drive Away Rats.

It is stated in the *Boston Cultivator*, that cotton batting sprinkled over with pulverized potash, will drive rats from premises infested by them, if crowded into their holes.

Saddle Grafting.

[The following mode of grafting has been long known to some propagators, and is figured and described on p. 40 of the American Fruit Culturist, from which we take the third figure, being a little more distinct than the sketch from our correspondent. We give his description, being minute and accurate, and the result of full experience.]

MESSRS. EDITORS—In reply to the inquiry of A. H. A., I send you the accompanying rough sketch and description of a method of grafting, which differs slightly from any method I have ever seen described, and which I have found to succeed admirably for stocks one-quarter to three-fourths of an inch in diameter, especially plum trees, which may by this method, be grafted at the usual time of grafting the apple. It will answer either for small trees, or the branches of larger ones.



A. represents the stock prepared for the scion, by cutting it off with a sloping cut, and two slits, *a.* and *b.* made by passing a sharp knife down those two sides of the stock, a little into the wood.

B. is a scion made to fit A.—*a.* being inserted into the slit *a.*, and *b.* into slit *b.*, by passing over the sloping cut and bending at the point, as seen in C., which shows the scion and stock fitted to each other.

The whole is then tied, so as to keep all parts in place, and cemented to exclude the air. When it has grown so as to be in danger of the strings cutting into the bark, they should be cut loose.

I have always succeeded by this mode from the first, and believe it almost sure. I think it not necessary to take any care about matching the inner bark of the stock and scion W. F. BASSETT. *Ashfield, Mass.*

Potato Culture.

We have had some very pleasant and satisfactory experience in raising potatoes, from planting simply the *eyes*, just rimming them out with the point of a narrow knife.

We selected the largest and best potatoes from the cellar, took out the eyes, and used the rest of the potato for the table, about as profitably as if the eye had not been taken out. They were then planted three in a hill or place, about one foot apart, and in rows some two feet apart; and then cultivated often enough to keep the weeds down, and to keep the ground stirred and mellow.

The result was, we gathered a fine yield of *large* potatoes from every hill, with no small ones—a very important consideration in harvesting or picking them up. Besides, we had no diseased or unsound ones; although in the adjoining ground, where we planted *whole* potatoes, there were many unsound ones at the harvest. Hence we believe, that where there are large quantities of the old seed to rot in the hill, it is likely to affect the young tubers unfavorably; and also where there is too much seed in a hill, it produces too many tubers, so that the young potatoes grow badly crowded, and consequently many of them must be small, and others become diseased. Here is matter for thought and experiment. D. S C. *Madison, Wis.*

Chimney Cap—Smoking Prevented.

In the course of two or three months after we moved into our new house, at three different times when the wind blew directly from the north, it forced the smoke downwards so as to completely fill the kitchen, and one day we had to put out the fire and flee to another part of the house. This was a cold day, and the wind blew very strongly and steadily. We took the marble cap off the chimney, but this made no perceivable difference. There are mountains running north and south, both east and west of us, but it is an open valley north and south; consequently no hills to turn the current of air from a horizontal direction, and what seems strange, (inasmuch as the top of the chimney was lower than the ridge of the two story part,) is the fact that we were only troubled with smoke when the wind came directly from the north.

Mott's Chimney Cap.

I then went to work to find a remedy, and adopted the "Mott plan," which I found in "THE CULTIVATOR" of December, 1845. The diameter of the perpendicular portion of the cap is nine inches—the proportion of the other parts are nearly represented in the figure. That it might not rust, I had it made of galvanised sheet iron. It weighed 13¼ pounds, and cost at the shop $4.63 It has proved an effectual remedy up to this time, (about two years,) and is worth more to us, (if we could not get a substitute,) than the cost of a single copy of all the "Cultivator" since the commencement of its publication. D. G. WILLIAMS. *East Dorset, Vt.*

Suppurating Knobs on Cow's Jaw Cured.

In 1856 I had a half Durham heifer that had five knobs on her near jaw. They first appeared when she was two months off, and had so increased that the largest was as big as a man's fist, and down to the size of a large duck egg. They had now been enlarging about a year, and one of them had discharged and closed up alternately two or three times. An old farmer from Somersetshire, (England,) told me he had seen a cure in a similar case, by opening with the knife. I considered the matter, and after a few weeks tried it, cutting the knobs open so as to ensure a complete discharge of their contents. To secure a cleansing of the interior parts, so as to preclude suppuration again taking place by the infection of the sound parts by puss, was of the first importance. Having nothing better at hand, I selected wool, thinking its elasticity would help keep it in the cavities, and saturated it with spirits of turpentine, which I believed would be very likely to cauterize and cleanse the inside of the sores, filling each cavity as full as it would hold. The heifer got well, bred a good calf, and no knob has reappeared up to this time

When the bone is affected, and becomes enlarged and cellulated, the case becomes more difficult, and probably for such there is no certain cure. J. W. CLARK. *Wisconsin.*

Feeding Flax Seed, Oil Cake and Corn.

Messrs Tucker & Son—In the Country Gentleman of Jan. 6th, there is an inquiry, made by W. C. R., of Ill., of John Johnston or some of your correspondents, how flax seed may profitably be fed to stock instead of oil cake. I had hoped Mr. J. would answer this question, which he is so competent to do, and I therefore waited to hear from him. It is much more trouble, and requires more care to feed the seed than the meal; yet at a dollar per bushel, the seed is sufficiently cheap to pay the difference over the meal at present prices, which, in this section, ranges from $27 to $30 per ton. To feed seed the most economical way, is to boil it. To one bushel of seed there should be four or five bushels of water to commence with, and then it would have to be filled up several times, as one bushel of seed will make four bushels after it is boiled, if boiled as long as it should be to make every seed perfectly soft.

Soaking one or two days before boiling, saves much time in the boiling. It can then be mixed with any ground or mill feed that you choose to feed with it, or by grinding with other grain, it answers a good purpose as recommended by Mr. Talcott of Rome.

For milch cows I regard Linseed, in some shape, as almost indispensable, for a few weeks before and after the cow comes in, if she comes in before turned to grass; not that it is good to make her butter keep well, or give it a fine flavor while she is eating it, but for the reason it is so well adapted to her condition at that time, and is better than an insurance office for calves, while they are fed milk, and through the first winter, and equally good for sheep.

In Illinois I do not believe you can afford to use it in any way, where corn ranges from 30 to 40 cents per bushel, to fatten or winter cattle—what you term in the western States half fed stock, to turn to grass to ripen early for summer market, for a pound of corn meal will make as much beef as a pound of oil meal, or any other kind of meal you can feed. By the time your cattle reach the Washington drove yard, a bullock that carries 800 lbs. beef, York weight, will shrink at least 25 or 30 lbs. more that has been fed on oil meal than on corn. I say so, not for the reason that I have tried it, but for the reason that my cattle fed on oil meal when driven from my place to York, (before there were railroads,) a distance of 300 miles, would shrink about that much more than those fed on corn meal. The shrinkage of the oil meal fed cattle would be about the same as those fed on still slops. Again, oxen that are six years old and upwards, will make as many or more pounds on corn meal than on the same number of pounds of oil meal, while the two year old steer will not. The reason for this must be that their stomachs are not as strong, and cannot digest so much rich food, in proportion, as the full grown ox. The steer will not make more than fifteen or twenty pounds weight through the winter, on the same number of pounds of oil meal than on corn. If he had to be turned out for the reason he was only half fed, or did not ripen on full feed, or the prospect of a better market in June or July, then all that the steer fed on corn meal lacks in winter will be made up as soon as he runs to grass 30 or 40 days.

Corn meal not only fattens while you are feeding it, but unlike oil meal or roots, or anything else, it continues to fatten after you have stopped feeding it. When the bullock is turned to grass you can see it swell, and the scales will tell that he makes more flesh in the pasture than if fed on any other food. These tests were made with all the cattle, having as much good hay as they could eat; what they left was thrown out in the racks for the young stock. I endeavored to make the experiment with much care, after the price of oil meal advanced to about the same price per ton with that of corn; when I first began to purchase, it was as low as seven, eight, ten and fifteen dollars per ton. I have used large quantities of it for many years, and could I purchase it at its relative worth compared with beef for fattening, I should always use my feed mixed with a liberal portion of the oil meal, as there is no danger of cloying; and the manure is worth more than that made from anything else I have tried, especially for corn, grass and wheat, and perhaps for all crops except potatoes, which are more apt to rot since the blight made its appearance, than with any other manure; all kinds are more or less dangerous since that time.

For working cattle or horses, a small quantity is good. It should be small, as it does not give much strength or power of endurance, compared with oats, which feed the muscles.

I have said that I made the experiments with much care. It was for my own benefit, without ever expecting to give publicity to them at the time, or I should have preserved the record of the whole transaction, which is either lost or mislaid. It was for two successive winters with forty head—twenty head in a stable on one side of a large mow of hay and the same on the other. I fed hay from the same mow, turned in the same yard through the day, and they drank the water from the same trough. Those that were stabled on the north side of the barn made 16 or 18 lbs. more each, than those in the south stable, which was equally warm except from the northern exposure. The oil meal was fed on the south side one winter, and on the north the next. I can only account for the cattle doing better on the coldest side, from not having their windows left open in warm nights, at all times, as they should have been. Stables can be too warm for cattle as well as too cold. Nature has provided them with warm covering, and if kept dry and protected from the wind, it is all that is necessary, and then in warm nights they are better off in a good yard with plenty of straw to lie on. I weighed the cattle myself; they were fed by what I regarded a faithful hired man, and I have become satisfied from forty years experience, that I cannot afford to purchase oil meal at present prices to fatten cattle, or to husk corn and send it to mill and give a tenth for grinding to feed cattle, and that there is not one-tenth lost, by feeding the corn whole to the cattle; the hens, turkeys, ducks and geese, will find nearly all of that. Cut the corn, bind it up in sheaves, and set it up well; when cured sufficiently, house it, if room; if not, stack it well and feed as you choose. In the western States hogs follow the cattle, which is the better way, when large quantities are fed.

Our corn costs too much labor to make a business of fattening on that, and I can only afford my cattle a start on corn or something else, and fatten on grass. One bushel of corn fed in the spring before going to grass is worth two fed in the fall. The reason is that corn is so strong and rich in its fattening properties, that it fills up the crevices or pores of the flesh of the bullock with tallow, a portion of which seems, in a measure, to lie dormant when fed on other dry food, until it is developed on grass.

I am not prepared to say exactly how much boiled linseed should be mixed with corn meal for fattening; the quantity, however, much less than with mill feed, but should always be mixed. The oil meal can be safely fed without. A. B. Dickinson. *Hornby.*

Singular.—A neighbor of mine has a cow very singularly affected. When she goes to drink, instead of supping the water, she "*laps*" it, as a dog does. The cow is in good health in every other respect; eats heartily, and is giving milk. Can you, or some of your readers, tell us of a cure for it? R. B. C. *Chattanooga, Tenn.*

Thoughts about Oxen.

Oxen, from their docility, were probably the first of domestic animals which gave their strength to the service of man. Ancient writers frequently speak of them, and King Solomon, among his pithy proverbs, declared, "Where no oxen are, the crib is clean, but much increase is by strength of the ox." The Hebrew husbandman had made some advancement in agriculture, as they used plows and carts, and "the strength of the ox" to draw them. It seems strange, however, that having arrived at this point, they should go no farther, but that the farmers of the fertile valleys of Canaan should follow the same routine to-day which they did five thousand years ago.

It is as true now as in the days of the wise king, that "much increase is by the ox." Taken literally as a working animal, and also as included when we speak of cattle, there is no profitable agriculture without them. Stock and grain-growing are inseparably connected in most soils and climates. Wherever cultivation is required, wherever manure is useful, there his "crib is clean" who keeps no stock, to assist in the cultivation of the soil, to consume its coarser products, and to furnish manure to keep its fertility unimpaired. To grow breadstuffs profitably, we must also raise meat—and so it has been from the beginning.

As to farm teams, the points in which oxen differ from horses, scarcely admit of close comparison. The ox serves the farmer by his labor, and profits him by his growth. The horse, as an idler, is useless to his owner, but the ox is increasing in value by the feed and rest he takes, as those prepare him for the butcher's stall. For work to which he is adapted, the ox is the best, as he is the least expensive team; but for speed—for *all uses*—horses will ever be preferred.

It has been questioned at what age it is most profitable to cease working oxen, to fatten them for beef. Some would not go above six years—contending that previous to that age, they can be most readily and profitably fattened—and that at seven years or older, they require much longer feeding to fit them for beef, more than enough to balance the additional labor performed. The general opinion places this period at eight or nine years, giving the prime of life to work, and when they begin to fail for this, using them for beef. What say our readers on this?

Notes about Potatoes.

I notice many accounts of the yield and quality of a new variety of potato, called the *Prince Albert*. Can you inform us where it originated, or if it has a synonyme? I sent to Mr. G. HOWATT last spring for some of them, but was unable to obtain any. Since, from the best information I can obtain, I am led to believe they are the old *St. Helena* under a new name. The *St. Helena* is a second rate potato, quite good for baking till towards spring, when they become *watery*, though when grown on sandy soil they are better. I have bought them in the Boston market under the following names, though convinced at the time they were St. Helenas: East Port White Mountain Seedling, and Wild Mexican. They yield very well; will bear *manure without rotting*; are worth sixty cents per bushel in Worcester market.

The *Davis Seedling* originated in Sterling, Mass., some six or seven years since. For several years it was free from rot. Mr. Davis secured a gold medal valued at $50, from the Worcester Horticultural Society for his potato. I have planted them five years—the first two not a decayed potato could be found among them; but for the last three one-half to two-thirds have rotted. In quality they far excell the St. Helena, and are second only to the Carter, while they yield abundantly. Hundreds of bushels of *Peach Blows*, (which are almost worthless *here*,) and *Western Reds*, have been sold in Boston market for Davis' Seedling, so that many have condemned them without having ever tried them. They are now selling at 60 cents per bushel in Worcester market.

I procured from Mr. GOODRICH of Utica, last spring, several new varieties of potatoes, which bid fair to be of great value. Among the best is the *Garnet Chili*.

I have written these things because I take a deep interest in the cultivation of the potato, and endeavor to procure all valuable new varieties. One feels rather "cheap," after paying double price for a *choice* kind and $1 to $3 for express, to find an old sort long since discarded.

Is the *Chenango* and *Mercer* the same? C. W. G. *Holden, Mass.*

We first received the Prince Albert Potato from Mr. HOWATT of Newton, N. J., who informed us that he bought them in New-York under that name. About the same time, we received them from Mr. GEO. MCMAHON of New-Milford, Conn., under the name of Napoleon or Prince Albert. Since, we have received several different kinds, which are claimed to be Prince Alberts, which are not the same as those received from Messrs. Howatt and McMahon. The only St. Helena potatoes we have seen, were from Tompkins county in this State, and our first impression was that they were identical with the Prince Albert, but on a more careful examination we came to the conclusion that they were different varieties. The Chenango and Mercer, we believe are identical.

Turf Ashes—Bone Manure.

EDS. CULT. & CO. GENT.—I was pleased to see your invitation for *inquiries* on all matters relating to farming. I have often wished to ask for information, but feared the many letters of inquiry you must receive, might be annoying. I have never seen fully described the method of preparing *Turf Ashes*.

1. Will any old turf, such as is usually found by the roadside, answer for burning? (1.)
2. At what season of the year should it be cut? (2.)
3. Will a common plow do the work where the soil is somewhat hard and strong? and 4th, What depth of furrow? (3.)
5. Should the turf be turned or moved in any way to dry them more completely before burning? (4.)
6. Would patches of brakes and sweet fern be proper for this purpose? (5.)
7. What quantity of ashes should be given to an acre? (6.)

Is there any cheap and practicable way of preparing *bones* as food for crops where there is no mill for grinding? (7.) I saw it stated that if they were placed in heating horse manure, they would in the course of the winter become soft, and I did as directed, but the bones in the spring were as hard as ever. INQUIRER.

(1.) It will; and the older and more compact the grass roots, the better the turf will burn.—(2.) This is not important; probably early in summer, that the turf may be well dried by the commencement of autumn, when, if the weather is dry, the burning may be performed.—(3.) A plow, if sharp, will do the work, but it should not be run down more than about three inches, or lower than the stratum of dense grass roots.—(4.) It should be set on edge, or built in loose heaps. Sometimes it may be necessary to place alternate layers of brush, weeds, &c. These in sufficient quantity, will cause clay or loam to become burnt, if dry enough.—(5.) Fern might be burned with the heap.—(6.) This would vary with circumstances—if much vegetable matter were burned, producing much ashes, an amount equal in extent to the removed layer of turf, would do. On heavy soils, with less vegetable ashes, a larger quantity would be beneficial.

(7.) We know of no mode, combining cheapness with efficiency.

Wheat and Chess.

D. WYRICK furnishes us a long account of a crop of wheat which was destroyed by the fly, and a large crop of chess took its place—he supposes the seed and land to have been nearly clean. He wishes us to inform him "where the seed of the chess came from? An answer is demanded."

In reply, we wish it first to be distinctly understood, that we do not propose to inform every farmer throughout a widely extended country, where all the seeds of every weed come from that is found growing in every field—nothing less than omniscience could do this, and it is simply absurd to ask the question. We will ask our correspondent a much simpler one, which will puzzle him to answer: In passing a field one evening we saw in it three cows; the next morning the same field was observed to have no cows, but three sheep—the question is, where those sheep came from? He can say that they *might* have found their way there in many ways, without resorting to a transmutation of cows to sheep, but that is not answering the question. So we could inform him how the seed of the chess *might* have been sown, but this is not what he asks. We have often met with quite as extraordinary instances as this which he mentions, and more so, where, knowing the circumstances, we could easily account for the source of the seeds of this weed; but in the present case, we have not the benefit of personal observation.

He admits the land had *some* chess before, and that there might have been accidentally a few grains of chess in the seed wheat. We have made observations on the character of the chess plant, and found it to increase *three thousand fold* in a single season, that is, one seed would give three thousand the first year, nine million the second, twenty-seven thousand million the third, eighty-one billion the fourth, two hundred and forty-three thousand billion the fifth year, which would be eighty-one thousand million bushels, at fifty thousand grains to a bushel—enough to seed every improved acre in the United States, at the rate of one peck per acre, *twenty thousand times!* This is the increase that *might* take place under the most favorable circumstances—and when it is remembered, as we have often observed, that chess will grow and perfect its seed in stubble and even in new meadows, wholly unperceived, it is easy to understand how the soil may become impregnated with the seed, independently of the various other ways in which it might be scattered.

When the wheat grows luxuriantly, the chess plants are small and unperceived; when it is killed, they spring up and yield a thousand fold. We have observed very dense crops of chess, each plant spreading out so much when full room was given it, that a fair acreable product has been yielded from an amount of seed not greater than what we have found in some seed wheat said to be "perfectly clean," without resorting to any supposed increase, or previously impregnated soil.

Our correspondent says, "you now have the entire culture of the field [alluded to] by one of the most careful men the world could produce." Yet he admits there was *some* chess both on the land in the seed; we have known a number of farmers who were so much *more* careful, that they had not only no chess on their land, but their seed had none, as was proved by the fact, that *no wheat ever changed to chess on their lands*, whether winter-killed or not.

Protection from Rats.

EDS. CO. GENT.—I have noticed that our friend A. G. E. of Cardington, O., wishes to know of "some good way to destroy or drive away rats," and furthermore that he does not manifest "any regard for their feelings." Now I suppose when he sees the poor fellows fleeing for safety, he could hardly in truth adopt the language of the poet Burns, on turning out a poor mouse with his plow, as it scampered off:

"I'm truly sorry man's dominion
Has broken Nature's social union,
An' justifies that ill opinion,
Which makes thee startle
At me, thy poor earth-born companion,
An' fellow mortal!"

"As regards destroying or driving away," I have but little to say; but would say to all who are not satisfied with harboring them, that after considerable experience, I have come to the conclusion there would be much less cause of complaint, provided they were not allowed such ample accommodations in the matter of cellar-room. We know it is easier to keep out bad tenants than to oust them. Years ago, when I came into possession of the old homestead, a portion of the cellar had a brick pavement, and a portion was earthen floor; there was also some holes in the walls as well as under them. To the former I applied mortar freely, and then plugged them up with stones, after which the whole floor was covered over with mortar some three inches deep, which was carefully pounded down as it dried, to avoid having cracks when completely hard. During the process I frequently had fresh made holes to plug up, but I kept up the warfare, and finally succeeded in obtaining exclusive possession. Since then I have had full belief in the saying that "one ounce of prevention is worth more than a pound of cure."

In 1849, when I commenced building at Highland Home, the first was a barn, which we had scarcely roofed in, when a dog discovered a large rat under the wall of entry sills. So the building was tenanted before there were any provisions in it. I then concluded that I would not accommodate such tenants with cellar-room, and straightway with pick and shovel dug a trench the width of shovel, and about eighteen inches deep, on both sides of the foundation walls, into which I pounded down (with a hammer for the purpose,) small stones, to within about three inches of the surface, and then covered them with earth; the consequence is, that we are very little troubled with rats since.

I am aware how difficult it would be for many who have ample accommodations, and have them *already occupied*, to get rid of them; but I would advise all who can, to debar them the privilege of *cellar-room* as much as possible. Now I am fully persuaded if my having thus much "investigated" the "subject" as our friend recommends, should induce others to plug up their cellar walls and lay mortar floors, they will be amply recompensed for their trouble. J. COPE, *West Chester, 28th of 1st mo.*, 1859.

Japan Apple Pie Melon.

MESSRS. EDITORS—Enclosed I send you a package of the seed of this celebrated melon, which I hope you will give a fair trial the coming season. They are a Japanese melon, brought there by Com. Perry. When grown to perfection, they often weigh from 35 to 40 pounds—are of a cylindrical form, and when perfectly matured are of a light golden color, with fine, firm grained flesh. When cooked they are almost tasteless, but by the aid of lemon juice and sugar, an excellent pie can be made. For preserves we say they have no equal. If kept in a dry, cool cellar, where they will not freeze, they will keep through winter. Should any of the subscribers of the Co. Gent. or Cultivator, wish any of these seeds, I will exchange with them for any varieties of seeds they may have and think worthy of cultivation. I have none of these seeds to sell, but should any desire them without exchanging, I will send a package on receipt of six cents in stamps to pay postage and the expense of putting up and mailing. WILLSON J. RALLSTON. *Georgetown, Brown Co., Ohio.*

Clover Seed on Prairie Sod.

W. Phelps of Crete, Ill., writes the *Prairie Farmer:* "Two years ago last spring, I sowed a quantity of clover seed in the chaff, on some prairie sod It being a season of drouth, but little came up that year. The next year it came up thick, and is now good pasture." This adds another fact in regard to those recently given (Co. Gent. Nov. 4, '58,) on seeding unbroken prairie to the cultivated grasses.

The same Land Fruitful and Unfruitful.

[We are indebted to a friend for a translation of this and another letter from Mr. SCHMIDT, which came to us in the German language.]

EDS. CO. GENT.—Some years ago the Prussian government undertook to reclaim by irrigation, a large part of the Teufler heath. The heath contained more than 100,000 acres of sandy land, so sterile that it was not possible to cover it even with a growth of pines. The river water used for irrigating it, was conducted about ten miles through a canal, and it required six weeks after the channel was opened, before the porous soil along its banks became so saturated that the water reached its proper destination. Several years elapsed before the hitherto so barren soil could sustain a tolerable growth of grass; nevertheless, in time it was fully shown that even there much grass could be produced from sand and water.

As the soil adjoining the canal became saturated with water, the farmers living within a certain distance began to complain that their lands were turning to marsh, and they received indemnification from the government. However, instead of losing their crops, the next season gave them a better harvest than ever before, and in a few years they were able to grow good barley, where hitherto only poor crops of oats had been obtained.

For the experienced, reflecting, intelligent agriculturist, an accurately executed chemical analysis of his soil has great value; but to him who imagines he can make an easy chair of it, it can be of no use. E. SCHMIDT. *High Place, Henry Co., Ill.*

Culture of Indian Corn.

MESSRS. EDITORS—At your solicitation, I now proceed to give your readers my experience and views in corn raising, after a trial of different modes for over thirty years in the cultivation of this cereal.

The best soil for Indian Corn, is, I think, everything considered, a gravelly loam. Though almost any other kind of good soil, if properly managed, will produce good crops of corn. My practice has been, if the ground was in grass, to manure well with long stable manure; turn it under a few days before the time of planting with a furrow about six inches deep, and afterwards make the surface fine and mellow by frequent harrowing. Then, if I design to plant by hand, I mark off the ground for the rows at the distance of three and a half feet from each other, and plant with hoes, using a handful of compost to each hill, composed of one part hen manure and three parts fine muck or loam, well incorporated and made fine before being applied.

This compost gives the young rootlets a start and keeps them growing finely until they reach the manure below. I prefer to plant with "Emery's Corn Planter," when the land is in a good mellow condition. Its advantages are—it saves a great deal of hand labor in planting. The rows are straighter and can be worked closer than with the cultivator. The number of stalks can be better regulated to a given space, and the yield is considerably greater to the acre.

When the condition of the land has permitted, I have practiced "ridging up" my corn ground, having previously manured the land and plowed it deeply—by which means the soil is put in fine tilth and the manure well mixed. The planting is done very expeditiously; the crop is not as subject to injury from wet weather. In short, the best piece of corn I saw the past season was "ridged up;" but without manure of any kind.

As regards the time of planting, a great deal depends upon the season—but as it opens sometimes earlier and and sometimes later, and as nothing can be told of the future concerning the weather with any degree of certainty, I have always found it the best plan to defer planting till the weather has become settled, and the ground warm enough to bring the corn up quickly. I once knew a piece of corn planted so early that it became stunted by cold wet weather, and did not recover during the whole season, and failed almost entirely.

My time of planting is from the 20th of May to the first of June, subject to variations by state of weather, &c. After a two years' trial with the King Philip corn, I have no hesitation in saying that, "in my estimation," it is the variety best adapted to this section of country, as it has not only proved the earliest, but yields the most sound corn of any kind with which I am acquainted, if properly planted. It should be planted three and a half feet apart in the rows, with the hills eighteen or twenty inches from each other with five or six kernels in a hill. C. *Niagara Co., N. Y.*

Sugar-Cane Molasses and Mills.

MESSRS. EDITORS—As I have not seen much in your valuable paper about the Chinese Sugar Cane of late, I thought I would let you know how we are getting along in South Jersey, in the manufacturing of molasses from the cane in a small and cheap way. In 1857, I made a few gallons of inferior quality, owing to my boilers being cast-iron, but I determined to try it again; I accordingly purchased a second-hand mill, with three iron rollers on a wooden frame, for $60; two flat bottom tin pans, three feet long by two feet wide, and ten inches deep, for $3 each; then built a cheap brick furnace to suit, costing $3 more—making in all $69. On the 11th of October, in 1858, I commenced operation with a boy and a horse, and manufactured 25 gallons of excellent molasses per day, burning one-eighth cord of pine wood. In this way I have made during the past season, over 900 gallons of superior molasses. I do believe the time is not far distant, when every farmer will raise his own sweetening, as well as he does his own bread and pork; and thus, in the aggregate, save a large amount of money to our country that would otherwise be sent abroad. This can be done, and very cheaply to, for one man can attend to three or four boilers, and with one of Myer's improved mills, which from appearances will surpass anything of the kind now in use, two men can manufacture 80 to 100 gallons of molasses per day. This machine has other merits also, which will be likely to bring it into general notice. THOMAS H. MILLER.

Since writing the above, I noticed an inquiry in the Country Gentleman by a correspondent, who asks which is the best mill for pressing sorghum or sugar-cane. I have often thought I would give you some of my experience in the matter, and perhaps save a great deal of trouble and unnecessary expense to many who will undertake the business. I have tried several mills, and have seen several engravings in different papers—nearly all are deficient in one or two points, that is, in the gearing, or in the frame, or in both. None but those who have tried the machine thoroughly, can form any idea of the pressure or strength required. Even Meyer's patent mill, the queen of all sugar-cane mills, had a weak place; this, however, is remedied by the improvement he has made in the frame. This machine, as far as my experience goes, is the best and cheapest. It will press the cane as well, if not better, than any other machine; it will cut cornstalks, sugar cane, hay and straw, equal to any fodder cutter ever invented; so one machine answers two important purposes, as much so as the combined mower and reaper. It is the only horizontal mill that is properly geared for hand or horse power.

T. H. M.

The Turnip Culture.

In the Co. GENT. of the 16th Dec., 1858, your correspondent, L. BARTLETT, gives his experience of turnip culture. Although not bred a farmer, inclination towards the pursuit and its refreshing and health yielding tendencies, have created for me considerable enthusiasm in that direction, and I have oftentimes regretted that I could not give strict personal attention to experiments which from time to time have presented themselves as worthy of trial. Without further preface, I wish to say that we have raised the Fetercairn Swede, Laing's Garden Swede, the Yellow Malta, the White Stone, Dale's Hybrid, the Red Top White, the Yellow Aberdeen, White Globe, the Yellow Swede, Yellow Altringham, and the large English Norfolk, as well as other varieties of turnips, all from good English seeds. Some of these, indeed all, are beautiful turnips. Some of them were, from their size, curiosities here, weighing from 15 to 18 pounds. Much benefit was derived from testing all these varieties, but the practical results were summed up in selecting a good Swede, say the Purple Top and the White Globe, described in Stephens' Book of the Farm. The White Globe matures early, and is distinguished for its "sweetness, juiciness, size of root, weight of crop, and elegance of form," and is the first to be used—the Swedes being the reserve stock,

firm of texture and good keepers. A farmer may well confine himself to two such varieties, though he will find some of the others, as the Green Top Aberdeen Yellow, of great value.

We tried them on a variety of soils, and have had no difficulty in securing a good crop. Careful preparation of the ground is a pre-requisite in this as in every other successful crop to censure certainty. Our practice has been to have the land ready, the drills prepared, and sow (the Swedes early) just before a rain shower. When it can be had, superphosphate of lime, strewed lightly and covered in with the drill, will give the plant such a vigorous start as to place it out of the reach of danger from its insect enemies.

For immediate use, a supply of turnips should always be stored in the barn cellar. One year in particular, having a quantity of Swedes for which we had not cellar room, a dry place, conveniently situated near the farm house, was selected—the earth thrown out about one foot deep with drainage from the lower end, and the turnips piled up in a ridge shape, six or seven feet wide at the base, and lengthwise running from south to north. About ten or twelve inches of straw was laid loosely over the heap and at first a light covering of earth put over the straw and smoothed down with the spade. At the approach of more extreme weather the covering of earth was increased to, say six or eight inches, and vent-holes, filled in with sheaves of straw, were inserted. Our confidence was well repaid, for in the spring the turnips were as fresh and sweet as when they came out of the ground. Care, however, should be taken in our northern climate to do the work well, and all unsound roots should be picked out. I will not venture to *recommend* this plan, as I do not wish to incur, even remotely, the responsibility of any of your readers losing a valuable crop—all I mean to say is, that we practiced it ourselves and such was the result. W. O. Buell. *Perth, Lanark Co., C W.*

Profit on Milk and Butter.

There are probably several of our readers to whom this question comes up for decision every year, or at least every now and then, and as it is one of not a little importance, pecuniarily and otherwise, it has occurred to us that the following facts may prove of service in enabling those in doubt about this matter to arrive at a correct answer. We give them as we find them in an article in the *New England Farmer* of Feb. 5, under the head of "A Comparative Statement of the Product and Value of Milk and Butter," by George S. Boutwell. Mr. B. states that he commenced saving milk for butter on the 10th of May last, and continued until Oct. 1st. "The milk was weighed once a week, and twenty pounds were considered equal to one can of eight quarts. The milk would have sold for eighteen cents a can, and the butter was sold for twenty-four cents a pound." The result and comparative value at the above rates may be seen from the following statement:—

Milk.		*Butter.*	
May, 163 cans,	$29.34	177½ pounds,	$42 60
June, 241½ do	43.47	201½ do	48.36
July, 188½ do	33.93	166⅔ do	40.02
Aug., 211½ do	38.07	193⅓ do	46.50
Sept., 202½ do	36.45	174¼ do	41.94
	$181.26		$219 42
Cost of making 914½ lbs butter at 5½c.	50.28	Value of residue of 1007 cans at 8c.,	80.50
	$231.54		$299.98
			231 54
Difference in favor of Butter			$68.44

The foregoing statement furnishes, incidentally, an answer to a question which has received, as it necessarily must do from a great existing variety in the richness of milk, quite a variety of answers. Taking the entire season together it will be seen that 22 pounds, (which may be readily converted into quarts or gallons, of either wine or ale measure, by the process indicated on page 49, of current volume of *Co. Gent.*,) produce a pound of butter; but in the month of May only 18.3 pounds were required.

In applying the results obtained by Mr. Boutwell to any particular case allowance must be made for the prices which can be obtained, in different cases and different localities, for milk and butter. In most cases they will vary more or less from those which he has made the basis of his estimate.

In connection with the matter now under consideration, and with what was said on page 49 of current volume of *Co. Gent.* as to the Oakes Cow and the weight of Milk, we would here remark that there is a want of accuracy or liability to error from the employment of two different measures in milk accounts. The milkmen of Boston *buy* from the farmers by beer or ale measure, and sell by wine measure; and sometimes the one and sometimes the other is made use of in milk accounts. From this, errors and confusion must arise, as the former contains 282 cubic inches, while the latter contains only 231, per gallon.

To Make Money with Poultry.

I see so many discussions about the profits of poultry in your paper, that it induces me to suggest the following, which, if faithfully put in practice, will give the desired results—viz., large profits.

The object is to have hens that will lay an egg a day every day of the year. Thus, if you begin with 300 hens, they must lay 300 eggs, or 25 dozen a day, or 9.125 dozen a year, which at 20 cents per dozen, will be $1,825 cash a a year; the expenses on this will be about $500.

If a man has five or six acres of land, he can begin with 1,000 hens and about 80 or 100 roosters. He will have to enclose his land with board fences five or six feet high; make the hen-houses along that fence—seven or eight feet wide, eight or nine feet high in front, with doors and windows every fifteen or twenty feet—one or two roosting poles along the whole length back, so as to give every bird one foot square at least to roost—the nests can be put under the windows or back part of the house; there will be then sufficient space in the middle for a storm and feeding room to put them in stormy weather—the house in such weather being well supplied with clear water, and ashes, lime and sand, for the hens to roll and dust themselves in.

The interior of the six acres will have to be divided in several divisions, which can be done with lath fences, so as to keep the poultry in as many distinct groups as possible. They will naturally roost in the house, the groups by themselves also, although it may be partitioned off for that purpose, and also well supplied with clear water every day, lime, ashes and sand.

The way to make them lay every day, is to feed them on nothing but cut raw meat, which may be of any kind—horse or dog, or any other meat, worms, grubs, caterpillars, or offal meat. They will then lay every day certain. No hens should be allowed to set. Any eggs that want to be hatched, should be hatched by artificial means, (an eccalobeon,) so as not to disturb the hens from laying.

In the choice of poultry, discard all except good barnyard fowls—Dominiques, Dorkings and Spanish will do very well, and the common dung-hill fowl. These will prove uninterupted good layers.

As above, a man with 1,000 hens will get 30,416⅔ dozens of eggs a year, worth at 20 cents per dozen, $6,083.31; but in winter eggs will sometimes sell for one-third to one-half more, and often double the price in summer.

Twenty to twenty-five acres will be sufficient to keep 100,000 hens; but then room should be had elsewhere to prepare the meat, the expense of which would be high, but the income would be large—almost fabulous, however true and certain.

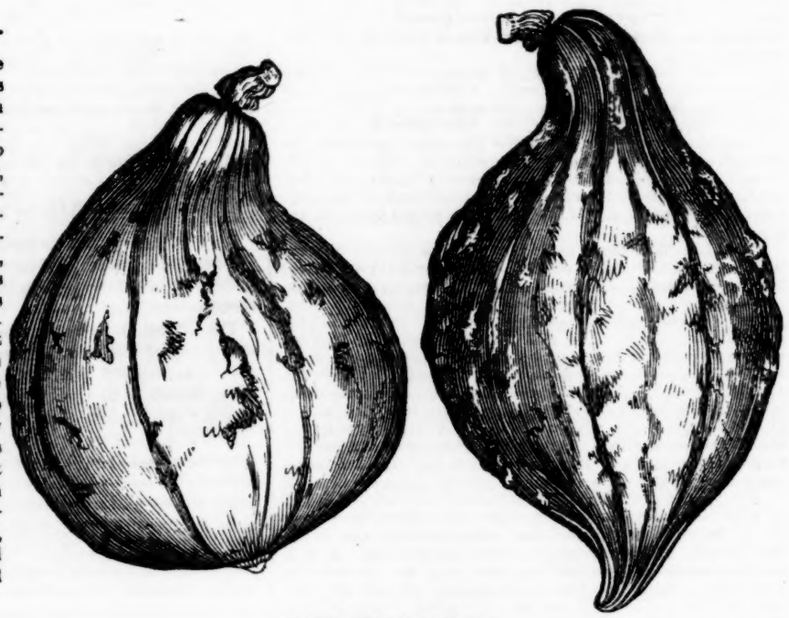
Properly to estimate the expenses of feeding, will depend on how the meat can be procured. Near a large city it will be less than elsewhere, owing to the better supply of dead horses, so that in a measure, the greater the number of hens, the less the meat will cost; for there any number of dead horses and dogs can be got, and even particularly a profit can be made on the dead horses, so that the meat would cost almost and in many cases nothing; for the hides, the blood, the heads, hoofs and bones, can be disposed of; the glue and Prussian blue manufacturers will buy the heads, hoofs and joints; the tanners will buy the hide; the button makers will buy the large bones; cutlers will buy the small and flat bones for handles, or the rest of the bones can be sold to bone dust makers for manure, &c., &c., or the gluten can be boiled and made into gelatine. Any quantity of meat can be prepared by chopping it fine, packing it in barrels with salt and pepper, and kept in a temperature a little above freezing, all the year round.

The hens eat the meat greedily, and thrive uncommonly on it. Any one can thus graduate the income he is desirous to realize from any given number of hens.

No hens should be kept over four years. All at that age should be fed entirely on grain for three weeks, and then sold off. F. A. Nauts. *Philadelphia, Pa.*

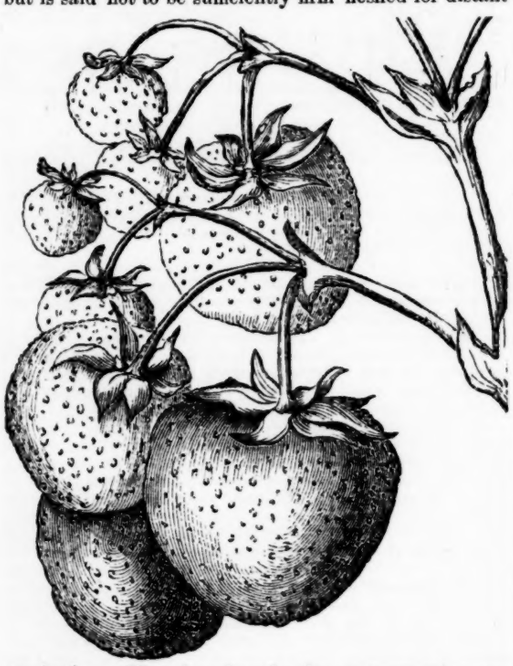
Hubbard Squash.

The above engravings are good representations of this celebrated squash, which has attracted so much attention during the last two or three years. Mr. Gregory, to whom the public are indebted for its general introduction, says it was introduced into Marblehead, Mass., more than forty years since, and that during this long period it has so maintained its character, that it is the opinion of a person now living, who ate the first squash brought into that town, that the quality is fully as good now as when firstintroduced. It has a thick, hard shell—flesh usually of a deep orange color, and of first-rate quality, fine grained, compact and dry. It keeps well until spring.



THE HUBBARD SQUASH.

HOOKER'S SEEDLING STRAWBERRY.—Do you know anything of the "Hooker Strawberry" advertised in your paper, and is it what it is represented? N. J. B W. *Tappahannoc, Va.* [The Hooker Seedling is a strawberry of superior quality, uniformly a great bearer, and ranks among the best for home consumption; but is said not to be sufficiently firm fleshed for distant



marketing. The size given in the accompanying engraving is the result of exact measurement of the fruit as grown in Western New-York with ordinary cultivation. Unusual care would doubtless afford larger berries.]

FERTILIZERS.—Burnt leather makes a very powerful manure. All manure, as a general rule, should be be moistened every other day by its own drainings, and always sheltered from the weather. H. L.

The Hydraulic Ram.

EXPENSE OF CARRYING WATER THREE QUARTERS OF A MILE.

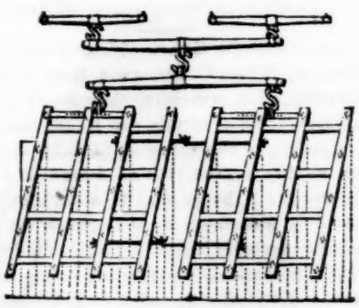
MESSRS. TUCKER & SON—My father is anxious to bring into town, the water from a spring three-quarters of a mile distant. The pipe would have to pass over hills and hollows, and the water must be raised about 100 feet. The spring is a very strong one, running at least 50 or 60 gallons per minute throughout the year, and a fall of 10 feet could be obtained by carrying the water a few hundred feet. Would a hydraulic ram be the best way to raise the water, and could it be depended upon, or would it be liable to get out of order? What proportion of the water can be raised? Are *hydraulic rams* much used and do they generally give satisfaction? H. W. W. *Jonesboro, Union Co., Ill.*

ANSWER.—We have seen a number of Rams in operation for carrying water to distances less than required by our correspondent, and we have heard very little complaint in any case, of any difficulty or dissatisfaction with their operation. And, on consulting Messrs. EMERY BROTHERS of this city, as to the cost in the instance under consideration, they give us to understand that they would not hesitate to warrant entire success to any customer of theirs in circumstances similar to those of our correspondent.

As to expense, the first item is the cost of the Ram. No. 6 would best answer the purpose, which is sold for $30, and which by the use of a three-quarter inch iron pipe, would probably deliver at the least estimate full 50 to 60 gallons per hour. Eighty feet of two inch driving pipe would be required, which sells for 75 cents per foot, and 3,840 feet of three-quarter inch pipe—price 13 cents—making a total of $559. Deduct for cash 15 per cent, and the balance, together with the price of the ram, makes the total cost $505.15. If a less amount of water would answer the purpose, one-half-inch pipe, (10½ cents per foot,) could be used, reducing the net cost to $423.72.

We know of no other or cheaper way of carrying the water to the desired height and distance, so likely to be effective and durable.

☞ N. L. CHAFFEE, Esq., Jefferson, Ashtabula Co., O., recently purchased of JAS. O. SHELDON, Esq., of Geneva, the bull "Clarendon," red, bred by Jonas Webb of Babraham, England, and imported in fall of 1857 by Wm. Betts & Co., New-York.



Scotch Harrow.

MESSRS. EDITORS—Could you give a description of the Scotch Harrow, form, size, weight, &c. OWASCO.

The following figure represents the usual form of the Scotch Harrow. In this form of construction, the bars are about two inches and three-fourths square, or if of the best timber, two and a half will do—and about four feet and a half long. It contains about forty teeth, each when first made about a foot long, and three-fourths of an inch square, the four lower inches tapering to a point. They are driven but partly through, and as they wear shorter, they are successively driven further. If the wood work is made of tough elm, at a specific gravity of seven-tenths, it will weigh about 70 to 80 pounds; the forty teeth will weigh about 65 or 70 pounds; total weight of harrow, 135 to 150 pounds.

The modification of this harrow, usually constructed in this country, consists of only six instead of eight timber bars, which are three inches square, and four feet nine inches long, containing 32 teeth nearly three-fourths of an inch square, and the whole weight being a trifle more than we have stated. This form renders it somewhat stronger and better adapted to rough stoney ground, but it is not so efficient in pulverizing. The team is usually attached by means of a clevis to one of the central bars, which is made a few inches longer for this purpose.

We have seen still another form of the Scotch harrow, intended only for land nearly or quite free from stones; it was made of very tough timber only two inches square, with teeth scarcely three-quarters of an inch square, and 48 in number. It pulverized the land to which it was adapted so as to appear like an onion bed.

Summer Bouquets.

With a few flowers we can add very much to the beauty of the garden, and the cheerfulness of the house. First and foremost for this purpose I esteem the VERBENA. There are so many different shades of color, that a very pretty bouquet can be made of them alone—though of course much prettier with the addition of a little Mignonette and Rose Geranium.

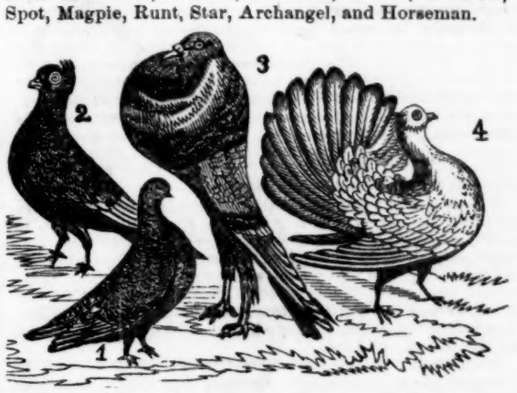
Let us get, then, if we can, one dozen plants, and they will more than repay us for all the care we take of them. If the plants cannot be obtained, then and only then, get one or two packets of Verbena seeds. As they bloom, reserve only the best, and in August select a very few of the very best; plant them in pots or boxes; leave them in the open air as long as it can be safely done, and move to the house on approach of winter. They can be kept in the house very easily—for, when well rooted in August, they will withstand considerable frost.

Besides Verbenas for summer bouquets, procure one packet of seed of each of the following, viz: "Ageratum Mexicanum," "Sweet Alyssum," "Cacalia," scarlet and yellow, (2 varieties,) "Candytuft," white, purple and crimson, (3 varieties, "China Pink," "Gilia," *finest mixed*, "Mignonette," "Phlox Drummondii," finest mixed, "Sweet Pea."

There are several very beautiful varieties of Phlox Drummondii, which can be obtained in separate packets. All of the above can be purchased for a few shillings of B. K. BLISS, of Springfield Mass., or of WM THORBURN, Albany, or J. M. THORBURN & Co., New-York, or of other seedsmen.

Fancy Pigeons.

The leading varieties of Fancy Pigeons, are the following, viz: Tumbler, Barbary, Pouter, Fantail, Trumpeter, Nun Morehead, Carrier, Jacobine, Turbit, Swallow, Spot, Magpie, Runt, Star, Archangel, and Horseman.



1. TUMBLER—2. BARBARY—3. POUTER—4. FANTAIL.

No. 1. TUMBLER.—This variety is one of the smallest, prettiest, and most peculiar in its flight, of any in the whole domestic pigeon family. It derives its name from its distinctive peculiarity, which is a faculty of "tumbling" when flying. When first mounting into the air for recreation, as well as when near lighting, it performs a succession of "somersets," throwing itself over and over backwards and forwards, in a manner so unlike any other bird of flight, as to make itself observed and admired wherever it is known.

The head should be nearly round, with a projecting forehead, and full cheeks. The bill should be nearly straight, very short, small and pointed. The eye should be near the center of the head, or a little below and back of the center; it should be full, round, bright and prominent, having a silvery or pearl-white iris. The neck of medium length, slender and much curved. Breast quite prominent. Back short, with quite a round compact body. Legs very short, with small, neat and clean feet and toes. Wings, close to the body, with flight-feathers and tail quite short.

Tumblers are commonly of some white color, as buff, cinnamon, brown, and black, while some are irregularly mottled, or splashed with white. A few have the head and tail white, the remainder of the body of some whole color, and such are called bald-head, and are very pretty. The pure black are called Kites.

The Ermine or Almond tumbler, see fig. 1, is thought to be the finest colored of all. Fanciers claim that each feather of the perfect Almond is composed of three distinct colors, having a bright yellow ground variously splashed with black and white. One English writer says, "I have had some in my collection that have had few feathers in them, but what have had the three colors that constitute the Almond or Ermine; namely, black, yellow and white, variously and richly interspersed. In short, their beauty far surpasses all description, and nothing but the eye can convey a just idea of them." We should like to see a pair of such exquisite beauties walking into our sanctum some day, for we have never seen a good one yet, and we seriously doubt whether there have ever been any nice ones brought across the Atlantic.

Tumblers are as hardy and prolific as any common pigeon. They should not be allowed to fly with other pigeons, as it is thought to injure their tumbling. A dozen or so on the wing at a time, when at play, make a beautiful sight. They tumble better when allowed to fly but about an hour each day, say the last hour before sundown.

No. 2. BARBARY, OR BARBE.—This is a small elegant and sprightly bird that derives its name from the northern part of Africa, where it is said to be found in its native state. It has been known in England for a long time, as England's greatest delineator of human character makes one of his characters say, he will be "as jealous as a Barbary pigeon." It is no larger than a Tumbler. It has a broad head, of a squarish form, which should always have a small well-turned tuft of feathers, called the "turn-crown," at the back side. It has a naked and somewhat wrinkled, reddish skin around the eye, that increases with age for three or four years. The beak is short, remarkably stout, with quite a development of fungous skin at the base of the upper mandible. The body is short, compact and round. The color of its plumage, if well bred, is either black or dun; the black being

most esteemed, as it has beautiful iridescent shadings on the neck. Some amateurs think them delicate to rear, but we have never bred any pigeon more easily.

No. 3—POUTER OR CROPPER.—This bird is one of the most singular and attractive in appearance of all the fancy varieties. It is said to have been originally bred in Holland, though our best stocks have come from England. It receives its name from an enormous wind-sack that entirely surrounds the neck, though mainly developed in front. The bird inflates this sack at pleasure, or it may be filled artificially, as we have seen the hunter take the bill in his mouth and "blow up" his bird for exhibition, as a boy would "blow up" a bladder. This peculiarity is possessed by both sexes, but is practiced most by the males. As our cut shows, this puffer, as if conscious of its importance, carries itself, with a true aldermanic dignity, in a very upright manner.

The best bred Pouter is tall and slender, the taller and slimmer the better. When blowing it should stand quite erect, with tail depressed, the wings carried close to the body, and the feet be near together. The crop should be round, large, and extending quite up to the bill. They are of almost all shades of color, and rarely seen of one color, except the pure white, consequently color is entirely a matter of taste. They should be heavily feathered on the shanks and feet.

Pouters are frequently poor feeders, so it is well to change eggs with common pigeons, that are good "feeders."

No. 4—FANTAIL OR SHAKER.—This beautiful pigeon is called Fantail from its great development of extra tail-feathers; ordinary pigeons have but twelve, while this bird is blessed with twice or three times that number. When agitated it has a peculiar tremulous or quivering motion which gives it the name of Shaker. The body is rather small, breast remarkably prominent; head and neck small, neck rather long and bent backwards until the head and tail almost meet; while the wings drop below the body.

Snow-white is the most common color of the plumage, though some are pure black; some are "pied," having reddish shoulders, which gives them the name of "saddle-backs;" and some, called "bald-heads," have white heads and tails, with the body black or red.

This bird cannot close its tail like other pigeons, but it can turn the outer edges inwards like the hen, but not as perfectly; hence, it flies with tolerable ease. Its constitution is rather considered delicate. Like all pigeons it breeds more freely when allowed to fly at large, than when confined. D. S. H.

Tile Machines and Tiles.

EDITORS COUNTRY GENTLEMAN—I notice an inquiry about tile machines, by E. J., York, Pa. In answer to this I will say, that such articles are manufactured in this State, by John Daines of Birmingham, Oakland Co. I think the price is about $100 or $110. I have seen these machines; they are not complicated, or likely to get out of order. They are light and portable, and when packed for transportation, do not occupy much space, and on this account are much prized by tile manufacturers.

The most experienced drainers now prefer the pipe of tubular tiles, to all others, as they are less liable to accident. It has been proved that a small quantity or water will *rise higher*, and consequently *run faster*, in the narrow concave bottom of a pipe, than in the flat and wide bottom of a horse-shoe tile. Some of the best English drainers assert that inch pipe are quite sufficient for the modern branch drains; others prefer those with a bore 1¼ or even 2 inches in diameter; but I think the medium size is best. It is a common error to make draining tiles *too large*, as the current is apt to become sluggish in them, and to deposit sediment, which ultimately chokes the drain. EDWARD MASON. *Detroit.*

POPE COUNTY AG. AND HORT. SOCIETY—Officers for 1859:

President—Hon. WESLEY SLOAN.
Vice Presidents—John Foote, Gordon Thompson, and W. S. Hodge.
Treasurer—A. H. Buel.
Cor. Sec'y—J. M. Raum.
Rec. Sec'y—John M. Bolcourt.
The Society will hold a fair next fall at Golconda.

Culture of Hungarian Millet.

EDS. CULT. AND CO. GENT.—We noticed an inquiry in the last no. of THE CULTIVATOR, from R HEDGES of Pickaway Co., Ohio, respecting the culture of the Hungarian Grass. We generally sow it, and the other varieties of millet, in this latitude, (40° 23′ north,) from the 25th of May till the 10th of June. If sown earlier, the weeds (if the ground is not clean,) will get the start of it, and check it, as it grows but little till the weather becomes warm. The ground should be thoroughly pulverized by plowing and harrowing. Then sow, if for seed only, about eight quarts to the acre; but if for hay, from ten to twelve quarts should be sown—following with the harrow till the seeds are covered, after which pass over it a light roller, or much of the seed will not vegetate.

The time for cutting is when the seeds are nearly ripe, and the whole plant is beginning to change to a yellow color. If cut too early, the seeds will not be perfect, and if too late, much of the seed will be lost in curing. The stalks will also be too hard and reedy for feed.

It may be cured in the same manner as other hay. As fodder, after threshing, it is about as good as timothy hay. Horses and cattle eat it with avidity. W. DENNIS. *Applebachville, Pa.*

Early June Peas.

G BUTTS, Onondaga Co, N. Y, will find Early June Peas, of which we have a variety here, large in size, good yielders and free from worms or other insects—a good article for a spring crop, preparatory to sowing fall wheat. I prefer this practice to the naked fallow. It ensures a crop—leaves the ground mellow—keeps down weeds—comes off at or soon after the hay season—and gives ample time to plow for the wheat. If the manure in hand is fresh, it can be put in the pea ground, and be well rotted, and help the fall wheat. We have, in this way, manured in the spring—sowed these peas—took off the crop, sowed to fall wheat, and sowed down to grass, with success. Should the fall wheat fail from any cause, then, in the spring, the land may be again sowed with the Scotch wheat, and again seeded down. These peas, owing to the vines not being naturally long, will succeed on good land without falling down and injuring the crop, though we have seen the vines over five feet in length on rich land. This variety has a rich, broad leaf, white blossoms, thick stalk, and when in full bloom the whole field has a most inviting and beautiful appearance. It is one of nature's sights well calculated to gladden and cheer on the honest husbandman in his toil. W. O. BUELL. *Perth, C. W.*

Fence-Making—Inverted Posts.

I see in THE CULTIVATOR for 1858, p. 340, a hint given on inverted posts. This is a thing perhaps not generally known among farmers, and perhaps not generally believed. It is nevertheless true that posts or stakes will last longer if inverted than otherwise; though the top end may be smallest, yet will it outlast the other if inverted. I am not able to give the reason why it is so, but am told that the timber has a natural "suction" by which water or dampness is drawn above the surface of the ground, which rots it off, which is not the case if inverted. Try it, brother farmers. C. F. *Clarion Co., Penn.*

BARN CELLARS.—By your remarks I am led to believe you do not favor barn cellars. I have used a small one for a few years, and like it so well that I am having one, 40 by 60, under a barn now in process of erection. C. W. G.

Popular Breeds of Cattle in England.

In the *Mark Lane Express* of Feb. 14, we find a review of a new volume of the *Journal of the Royal Ag. Society of England*, from which we make the following extract:

By far the most readable paper in this number of the Royal Agricultural Society's work is Mr. Robert Smith's report on the Chester stock show. It is a long way the best thing of the kind the *Journal* has ever had, and quite a reference for future Stewards to turn to. But it is at the same time something more and something less than an actual report of the meeting. We have carefully prepared tables, showing how the different breeds of animals have increased or declined in the entries at these anniversaries. The strength, however, of the paper—and wonderfully strong it is—lies in the introductions to the several sorts and classes now recognized in the prize sheet. We never saw so much useful information better condensed. He has a few great facts to tell us of all the different breeds, be they cattle, sheep, or pigs; while of the origin and progress of some, we repeat, that he epitomises quite an interesting story. Take for example his opening to the short-horn classes, in which he traces them fairly back to the Teeswater, and comes on with them through the Collings, Masons and Bates, up to the Booth blood, "now by almost universal consent, recognized as the best tribe of short-horns in existence." He tells you what the bulls from this famous Warlaby herd are now letting for, and has a glance at all the great short-horn sales of the time He treats equally well, but at less length, of the rise of the Hereford and Devon; while, perhaps, next to the Durhams his most interesting notes are on the early history of the Leicester and other long-woolled sheep. Mr. Smith, it must be borne in mind, has himself been a very successful breeder in cattle, and more particularly of Leicester sheep, so that he speaks with higher authority on such matters than he even would as a steward of the yard. In his estimate how the short-horns stood at Chester, he has to refer to the injurious effects of an abuse we have ourselves long continued to complain of:—

"A review leads me to the opinion that, although the short-horns have now become more the general stock of the country, and were shown in unusual numbers at Chester, they were not there superior to the best bred animals that have been exhibited in former years. The young animals, especially the *males*, are not improving as they ought from such parentage as we have been accustomed to see at previous shows. *The high condition of the cow and heifer stock is unnatural and opposed to common sense. Are such animals really in a state for breeding and milking*—one (at least) of the uses of the beast? It would be well if more attention was paid to the lean meat of a short-horn, and less to superfluous fat. It would be better to err on this side with our first-class bulls rather than to encourage male animals of a smart heifer-like cast, without lean meat—'quality, *with* substance,' being really essential."

We have in other parts of this number some further confirmation of how the uses of the short-horn are extending. Mr. Herbert, in his live stock statistics, asks:—

"What are the breeds of beasts and sheep which form the supplies exhibited in London?" From an analysis of the stock exhibited during the past year, and founded on the most careful observation, we have arrived at the following conclusions:—

Per Centage of Beasts shown in the Metropolitan Market in 1858.

Shorthorns,	33.00
Herefords,	9 25
Devons,	5.00
Longhorns,	1.00
Crosses,	16.00
Highlanders,	2.00
Polled Scots,	4 00
Ayrshire,	0.25
Irish crosses,	8 00
Welsh runts,	1.50
Irish,	9.00
Bremen, Tonning, Dutch and German,	9.50
Spanish and Portuguese,	1.50
	100 00

"The above table shows that the shorthorned breed of beasts now stands at the head of the list of stock for what may be termed general consumption. They have gone on progressing at a wonderful rate since the commencement of the present century, and they are now to be found in almost every county in England, as well as in Ireland and Scotland. We may further observe that half bred beasts, between the Scots and shorthorns, have considerably increased within the last twenty years. The changes in the various breeds in this period have been remarkable. Whilst the shorthorns and crosses have increased, the Herefords, Devons, longhorns, and polled beasts have declined considerably. The same may be said of Welsh runts; but we find a great increase in Irish crosses, no doubt with the shorthorned breed imported from this country."

Hen Manure for Corn—Hill Fertilizers.

Reading C. B. MEEK'S communication of his experience with hen manure for Indian corn as a top dressing, (Co. Gent., Feb 24,) incites us to send you ours, in which we applied it "in the hill" before planting. We have been looking for more responses to the subjects proposed in your "Reader, will you write for us?" and hope yet to see them.

A year ago last winter, we built a hen house, (before that the hens had roosted under the shed, dropping their manure with that of the barn-yard)—last spring we cleared it out, and kept the contents separate for trying their virtue on our cornfield. We had a large pile of muck near the barn; from this enough was cut down for mixing with the hen manure, and allowed to dry in the sun, the better way to absorb the moisture of the latter. About two parts of muck to one of hen manure made a compost not offensive to handle, and from which very little odor of ammonia arose. Taking a wagon load of it to the field, and a handle basket to carry it while dropping; one man went with a hoe and made a hole for each hill; another followed with a basket of the compost, dropping as much as he could grasp in his hand in each hole, while a third followed to plant, first drawing a hoeful of dirt over the manure, then dropping the corn and covering it in the usual way. Three hands are thus required to plant as fast as one would do without any hill fertilizer.

The "benefits of the application" were seen in a quicker and stronger growth from the time the corn was an inch high until it ripened. The whole field was first manured with long manure from the barn-yard, and the corn top-dressed before the first hoeing, with a mixture of ashes and plaster. The crop was a very good one. We took the second premium at our county fair, last autumn.

On the part manured in the hill as above, the hills *due* on any rod, would give a bushel of ears sound corn. Some of the seed failed—thus some hills had but one or two stalks and some none. B & SON. *Niagara Co., N. Y.*

Mangold Wurzels.

We have cultivated them here for some years, and found them very valuable for feeding to milch cows, as they made rich yellow cream, and do not taste the butter as turnips are apt to do. We succeeded in growing them on heavier soil than turnips would do well upon. Some of your subscribers seem to have had no small trouble to get their stock to eat them We have no difficulty with ours. Everything about the yard is fond of them. Cows, calves, sheep and swine eat them with apparent relish. We feed them regularly to the cows, and a neighbor fed them to his ewes before the lambing season to bring the milk on them, with manifest advantage.

I do not consider them equal to Sweedish turnips for laying on fat. They are of a more scouring nature, and require to be fed in small quantities. They have also the advantage over carrots for dairy purposes, in growing on stiffer soil and being easier cultivated. They bear transplanting well, which is convenient to fill vacant spaces in the drills. THOMAS BAIN. *C. W.*

Management of Bees.

MESSRS. EDITORS—The March number of THE CULTIVATOR, p. 91, contains an article entitled "Raising of Queen Bees." The following I wish to draw attention to.

"'To breed in-and-in, always leads to injurious consequences in bees as well as in animals" Theoretically it may, but how can it be proved to be so *with bees*, by satisfactory experiment? I doubt the possibility of testing this with our present knowledge of their habits. If "the near relationship" of a drone from the same hive "is repulsive" to a queen bee seeking impregnation, then truly, this wonderful insect is endowed with a faculty or sense as yet undiscovered, so far as I am aware, in the whole animal creation. Permit me to quote the following from the article:

"Has the queen been impregnated by a drone from the same hive, (namely, her brother,) then the female of such a mother is less fruitful than if she had paired with a drone not so closely related; for only seldom will a swarm be thrown out of such a hive. Moreover, the workers are generally lazy, unconcerned about the prosperity of the hive, commence their work late in the morning, and are inclined to rob and carry in but little honey, &c," "Now this is the reason why so many apiarians lose all their swarms—the relationship is too near."

I think this reasoning, and remaining silent upon the many known causes of failure that every one can and should see for himself, is calculated to do harm by consoling many careless observers, who have had their bees "run out" from other causes, and making them conclude their want of success was beyond their control.

My remarks would be too long for one article, so I will only state a few of the causes of failure in bee culture, for the benefit of those who are interested in bees, and who like myself, are anxious to press forward to a better knowledge of the subject. I will give these causes in short accounts of the experience of some of my neighbors. Mr. B., ten years since, had twenty hives, the product of one warm in five years. He now has eleven, He never "took up," i. e. condemned to the sulphur pit, a single swarm. For several years he has not realized more honey than he required for his own use, and with his management he will soon be reduced to the original number, one. Why this decrease? Mr. B.'s management is a shed made of boards 16 feet long. The hives rest on a plank two feet from the ground, southern exposure—his hive, the common box hive. According to Mr. B.'s account, his bees have been mostly destroyed by worms. An inspection of the hives and the cracks in the boards of the shed, is all one needs to feel satisfied that the worms have done much towards lessening the bees. Now, what better or more convenient arrangement could be devised, than the hives near each other, and a good plank to crawl on, for the breeding of worms—easy communication and never disturbed? Add to this, occasionally a weak hive is robbed by a strong neighbor, and deserted and destroyed; this passing unnoticed, makes an excellent nest for worms, and in due time all your hives are worm stocked.

Worms robbing, removing too much honey, thus causing starvation, and endeavoring to save weak stocks, do more than all other causes I am acquainted with, to depopulate an apiary. To cut my story short for the present, I would advise all who have thus managed, and who have had like results, to reform—to tear down their shed—to follow closely Mr. QUINBY'S directions as given in his book, and his success will surely be theirs. Bees can be driven from a worm-infested hive, placed in a good hive, under favorable circumstances, and they will thrive, and a large and flourishing apiary may be established from them, showing that no deterioration in the breed had taken place. I state this from my own experience.

Should this meet your approval, I will give the experience of others from time to time, showing causes of success and failures. If thought desirable, I will give a plan for those who love to speculate and experiment, that will enable them to effect, though not with certainty, the impregnation of a queen by a drone, *not her brother*, if from the same hive. E. P. *New-York.*

Please continue the subject, and send us your address, that we may send you the Co. Gent. in which your articles first appear.

COTTON-SEED CAKE.—The use of this as an auxiliary article of food for stock, is becoming more extensive in England, and taking the place of oil-cake with a good many feeders. Is it not too little appreciated in this country? The chemist of the Royal Ag. Society of England has analyzed several samples, and finds that they vary in composition more than samples of linseed cake do. This is a disadvantage, certainly.

Trenching Land for Vineyards.

MESSRS. EDITORS—I wish to inquire if it really is necessary that land intended for a vineyard should be deeply trenched, as the books on grape culture recommend?

I have seen many vines set in places where the ground never had been plowed more than eight or ten inches deep, yet, where it is kept cultivated, they seem to be doing well. What advantage can it be to bury the soil beneath a foot of sour, cold and inert subsoil, and why should grapevines need a soil prepared in this manner any more than fruit trees do?

I believe that I have somewhere seen it stated that pear trees, which are double-worked on quince, are generally very short lived. Is it so? And would it prove true if the double-worked variety was one which succeeds well on quince? Which kind of pear would you advise one to take as a stock for double-working?

How can one distinguish the Fontenay quince from the Angers, and which do you think preferable as a stock for the pear? OLD SUBSCRIBER. *Worcester, Mass.*

Grapes may be raised with deep plowing only, but the largest and finest cannot be obtained without trenching or deep subsoiling, accompanied with very high manuring. The very finest Isabellas, obtained by this high cultuure, (which of course must include constant cultivation and proper pruning,) sell readily for 15 to 18 cts. per lb.—common ones are heavy on the market at 8 or 10 cents. Most sorts of fruit are greatly improved by trenching, but the grape sends its roots further in a given time, and is a ranker feeder than most fruit trees. If, however, we had to choose between a deep soil merely, and ceaseless cultivation, we would take the latter. An acquaintance who does not manure highly his ten acre vineyard, cultivates it *fifteen times* in a single season, and raises grapes that are scarcely excelled.

"Refractory" sorts of the pear are not apt to be very long-lived, even if double-worked, but some do finely for a while. The best *intermediates* for double-working are Beurre d'Amalis, Angouleme, Louise Bonne of Jersey, &c.

The Paris or Fontenay and Angers stock are both excellent—we scarcely know which to give the preference. The Paris is more spreading.

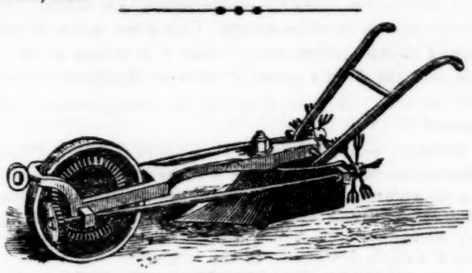
Hen Manure for Corn.

MESSRS. EDITORS—Seeing the statement of Mr. MEEKS, in regard to the use of hen manure for corn, I beg permission to say something also. I fully concur with him in regard to the furnishing of subjects, and if it would not be asking too much, I should like to have you publish that article again or give us some new subject for the benefit of the new subscribers who have not that no. I find that the great trouble with myself is to find a subject, which, after being supplied, I can go ahead.

In 1852, I had a lot of hen manure in an old corn house which I had fixed up for my hens, and I concluded that it would be a good plan to try it on the land rather than to sell it as many of my neighbors, and in fact myself had been in the habit of doing. So I planted about thirty rows through the middle of my piece on it, and the rest on old well-rotted stable manure, and the corn on the hen manure was taller, larger and the best corn every way. The next year the piece was sown down with wheat, and, where the hen manure was, it was the best, and every one asked the reason for it; and when I came to mow the grass, it was the best where the hen manure was applied.

Last year I had one acre on it, and one on stable manure; the one on the hen manure gave twenty bushels of shelled corn the most, and was the best corn; both were planted the same time on the same soil, and received the same culture, viz., cultivating and hoeing twice.

My way of using it is this: put about a large handfull in the hill, and cover over a little earth; then drop the corn on, and cover; and after the corn is up, put a little around the corn, but be careful not to let it touch the seed or young stock, or to get too great a quantity in the hill, for then the corn comes up and is as black as ink, and soon dies. But on the whole I find it the best manure that I can use on my corn, although great care has to be used, but I shall hereafter compound it with dry muck and ashes, and then there will not be so much danger in its use. M. *Richmond, Me.*



Wetherel's Horse Hoe.

In answer to occasional inquirers, we give the above figure of this implement. The small revolving hoes scatter the earth among the plants in the row, and perform thus the usual labor of hand hoeing. The rapidity with which the fine earth is shot into the rows causes all weeds not over several inches high to fall before it, and to become completely buried, if only an inch of earth is deposited; while the stouter plants of the crop are not affected. We have given this implement a partial trial, and were favorably impressed with its performance. We intend the present season to experiment with it fully, and to report to our readers.

Shares' Implements.

Messrs. Editors—In the fall of 1857, I plowed ten acres of my farm, which had not been broke up before in eighteen or twenty years. It was covered with bayberry and sweet fern bushes, wild Indian grass, which grows in bunches, and some white birch trees, which we cut off, and then burnt over the lot before plowing. In the spring of 1858, I did not cross plow, but put Shares' Coulter Harrow on to the inverted sod. It worked admirably. It went right over bayberry roots, white birch stumps, &c., without clogging or breaking a tooth. I think we did not have to put a hand to it in harrowing the whole the whole ten acres. It done the work first-rate for so rough a piece of ground. It was the only implement that I used in preparing the ground, excepting a bush harrow where I sowed oats. It did the work as well as if I had cross-plowed and harrowed with my Geddes harrow, and in about a quarter of the time. The harrow has already saved me more money than I paid for it, and I conscientiously recommend it as a first-rate implement for the purpose it was designed for.

I used the Cultivating and Hilling Machine among my potatoes on a part of the ten acres spoken of above. On the very roughest part it worked first-rate. It is a thorough pulverizer and death on weeds. It leaves the ground level and as fine and mellow as a chest of meal. It hills potatoes first-rate and is as good as a double mould-board plow for furrowing.

The Potato Covering and Hoeing Machine is another first class implement. A man can cover an acre of potatoes with it, as fast as he could furrow the same, and do it better than he can with a hand hoe. The machine leaves a wide mark so the potatoes can be cultivated out when they are just breaking ground without any danger of getting on to the hills. Edward Aborn. *South Seekonk, Mass.*

Reaping Machine and Tread Powers.

Messrs. Editors—I have on my farm, embracing 350 acres of land, about 65 acres of wheat growing, 40 acres of which are in a condition to use a reaper. Will it pay to buy a machine to cut that number of acres? And if so, which of all the patent reapers and mowers is the best, and where can it be had, and at what price? And also, which is the best two-horse tread power threshing machine, and where can it be procured? In answering the first question, I would have you take into consideration that I intend adding another 20-acre field to those already fitted for the mower, each successive year, for a few years to come. W. C. *Marshall, Mich.*

Several points must be considered in determining the economy of reapers. A good one will cut some ten acres a day—they have often done more by hard driving. The two horses and two men are worth about $3 a day, perhaps more. Hence the cost of cutting is about 35 cents per acre. A laborer with a cradle would ask about 75 cents per acre—and therefore the direct saving on the 40-acre field, would be about $16—the cost of the reaper is about $115—the interest on which at 7 per cent. would be $8, and the ultimate wear and tear, accidents, &c., about the same. The yearly cost of the reaper would be about $16—the amount yearly saved on a 40-acre field.

But there are other considerations greatly in favor of reapers. The farmers' horses are usually nearly idle in harvest, and may nearly as well as not be employed in cutting grain, and saving this severe exertion of men. It is also very difficult in most places to procure a sufficient supply of good cradlers, and the loss by a few days delay in cutting 40 acres, would probably amount in a single year to the entire cost of a reaping machine. Wheat cut before all the green streaks have disappeared from the chaff, according to our own measured experiments, affords an amount of more than a bushel per acre with a fair crop, when compared to the same crop allowed to become dead ripe; while the waste by scattering and shelling at the latter period is not trifling. Still greater than all these, is the occasional loss by continued rains when harvesting has been delayed. Taking all these facts into consideration, our correspondent may judge of the propriety of purchasing a reaper.

There are several well-tried, or what may be termed *standard* machines, whose value has been amply proved, but which on the whole are so nearly alike in excellence, that skillful farmers differ as to the best. Among these are Wood's, Allen's, Ketchum's, Kirby's, Ball's, Burrall's, Seymour & Morgan's, &c., and besides these there are several new ones, some of which are of probable excellence, but which need further proving. It is well to bear in mind, that while some reapers are evidently superior to others in *principle*, they may be really inferior in performance in consequence of bad manufacture. It is, therefore, always best to buy of an establishment whose machines have been well proved and endured continued use. We refer to our past advertising columns for prices and places of manufacture.

The best tread-powers are made by Emery Brothers, Pease & Eggleston, and Wheeler, Melick & Co. of this city, and G. Westinghouse & Co., Schenectady—all these machines are good.

Muck as a Manure.—Mr. Phipps, of Orleans Co., N. Y., gives in the *Rural New-Yorker*, an account of some experiments in applying muck directly to the soil. About 200 loads were drawn in the winter of 1857, from a tamarac swamp, upon adjoining loamy land, and left in small heaps suitable for spreading. He covered about one-half of a lot of fourteen acres. The remainder was dressed with barn-yard manure. The field was planted to corn, beans, and potatoes, and produced a good crop. It was hard to tell which part of the field was the best, that fertilized with muck or manure.

Barley—Rotation of Crops.

MESSRS. EDITORS—In THE CULTIVATOR for Feb. 1859, is an invitation to farmers to a free discussion of the subject of raising barley and the substitution of other crops in its place. With more or less acquaintance with barley for the last twenty years, I have long since come to the conclusion that it was rather a shy, uncertain crop to raise, and that those farmers, who place their chief dependence on it to make money, would meet with many disappointments.

The causes of the uncertainty of barley as a paying crop, are many and various. Some of them are given in the article already refered to; and as there stated, there undoubtedly are other causes that are not well understood, and there are some other reasons why barley has failed, which it may be well to consider. Insects have been mentioned as affecting the crop, and it is believed by many farmers in this section, that the common wheat midge seriously damaged their barley the past season. Not many days ago a farmer told me he "had straw enough for 40 bushels an acre, but only got twelve." Barley is frequently damaged by wire worms, and probably by other worms and insects in the soil, and perhaps it is more affected by bad seasons than other and hardier crops. I think in many, if not most instances, that two-rowed barley would have done much better than four-rowed—the former being, in my opinion, more hardy and less difficult to raise.

But in my opinion the principal cause of the failure is, that barley is naturally a difficult crop to raise—that, as a general thing, it only succeeds in making a paying crop where all the circumstances are favorable, and that this has not been sufficientiy well understood by the great mass of farmers—that consequently they have been less cautious in entering into the cultivation of this kind of grain, than they otherwise might have been. Consequently, barley has been sown on all kinds of soils, after all kinds of crops, and all kinds of cultivation, and, of course, with all kinds of success—the failures greatly predominating—so that now the general cry is, "I shall sow no more barley."

Now I come to your question—"what course then, shall farmers pursue?" I cannot give a better answer to this question than by stating the course of farming I have followed for the last four years, and which I have not yet seen any reason to change, which is a five years rotation as follows: First year, corn; second, barley, if the soil is suitable and in good condition—if not, oats; seed down with second crop; third, cut early for hay, and save the second crop for clover seed; fourth and fifth years, hay and pasture as circumstances require.

Now I will answer the question, "which is likely to prove the most profitable, corn or barley?" Corn, decidedly. But why sow barley? Because corn already has its place in the rotation and I wish to seed down with the next crop after corn. But if barley is an uncertain crop, why not sow oats? Because barley is a much better crop to seed down with. On good land oats, when sown after corn, in a favorable season, will grow too rank and large for clover or grass seed to do well. Were it not for the seeding down, I think oats would be a better crop than barley to raise. And then I would only sow barley after corn or some other hoed crop; then on a good soil, with good cultivation, I think we may reasonably expect a fair crop.

As to winter barley, as yet that has been more uncertain in this section than spring barley, owing as far as my observation extends, principally, if not wholly, to its great liability to freezing out, or winter killing. Where it has come through the winter in good condition it has done first rate.

A few words in relation to "cultivating more land than we can farm thoroughly." I break up my grass land when it has been seeded down three years, as by that time it is generally pretty well run out, and wants seeding over again. I plant corn the first year because I find it a profitable crop to raise, and because the succeeding crop of grain will be much better than it would be if sown on a sward. I also think that clover and grass seeds are much more likely to take well when sown with a crop that has followed corn. This course of farming gives a large proportion of forage crops, and thus enables the farmer to keep considerable stock. I also believe that when judiciously carried out, it is well calculated to improve the soil, and at the same time to give a reasonable profit on the labor and capital invested.

One thing more, and I am done. According to the census report for 1850, the State of New-York produced more than two-thirds of all the barley raised in the United States. If this continues to be the case, and there is, as undoubtedly there will be, a great falling off in the amount sown, then may we not reasonably expect higher prices, which will, in some measure, make up for a comparatively light yield of grain. F. *Orleans Co., N. Y.*

Letter from John Johnston.

NEAR GENEVA, March 7th, 1859.

MESSRS EDITORS—The weather here is mild and spring-like—mercury often from 40° to 50°. On the whole we have had a singular winter—a few days hard frost; then warm and the ground quite soft, and I may say we have no snow in this neighborhood—the wheeling always better than sleighing. It has been one of those winters called bad for the growing wheat; still, in this neighborhood, it looks well. Even the most inveterate croakers, cannot complain much. Although my observation extends only a few miles around here, I should judge from it that the wheat so far is safe, but the drains *under* it have no doubt saved it in this *section*. How is it where draining is not commenced?

We have now a prospect of an early spring. I have a memorandum of the time I turned to pasture, and it is singular to see how uniform the seasons have been after all, with the exception of 1830, '34, '36, '44, and '47, which were all late springs. There has not been over a week's difference in the others in this time I have turned my cattle to pasture, say from the 15th to 21st May, since 1847; but draining and high manuring bring grass much earlier; the ground gets sooner warm when drained and well fed. Before 1847, I kept my drained land in tillage, and did not know the effect of it on grass, but it is as beneficial there as anywhere.

I have sold my fat sheep, to be taken away on the 24th of this month. By that time the 501 sheep will have consumed 24 tons 144 lbs. of oil cake meal, with 40 days of good clover hay, and with straw from 23d Nov. until 12th Feb., all they would eat, and an immense quantity to trample down to absorb the liquids and make food for the land—some would say for the crops; but feed the land and it will feed the crops. Yours truly, JOHN JOHNSTON

Draining with Boards.

Our way of underdraining with boards, is to have the boards sawed an inch thick—one five inches wide at one end, and six inches wide at the other. The other board that we nail to that, (hog-trough fashion,) is one inch narrower, so as to make the troughs lap over each other as we lay them in the drains. We generally lap them about six inches. Some farmers say put them down two feet, some more; but our plan is, more or less, to suit the situation; in some situations two feet would be plenty; others, six feet little enough. The object is to go down till you come to the spring. The meadow where we have been draining, is black mud about two or three feet deep; then comes gravel. I had an experienced drainer putting in a few drains where was a mirey place of a few rods square that could not be ploughed; I paid no attention to him, having so many other things to attend to, and considering that he knew more about the business than I did; but he did no good; horses would mire through the sward. I went down after the plowman had given the job up, and with a boy, in four hours we put in an underdrain that dried the piece, so that I had better corn there than any where else in the whole field. We went through the mud with our drain, and as soon as we struck on the gravel the water boiled up as from a fountain, and in such a situation sap pine boards will never rot; all you have to do to preserve them is to keep them always wet. E. O. 2 *mo.* 4*th*, 1859.

Inquiries and Answers.

Corn on Moist Land.—I have a piece of land that has been mowed six years. It is a sandy soil, and so moist that rye is liable to winter-kill on about half of it. I thought I would put on a moderate coat of manure, and plow it in and subsoil it, and harrow it well, then furrow it out and manure in the hill, and plant with corn. Would that be a good plan, or would you do differently? I have Prouty & Mears' plow, Eagle C, ten inches across the share—what size subsoil plow do I want to follow it? L. C. *New-Milford, Conn.* [If the season should prove dry, this course would probably succeed well—taking it for granted that the wet portions are not clayey enough to bake after the spring working. Underdraining the wet parts would be the best thing that could be done, and next to that we would recommend plowing the land in such a manner that the dead furrows may be in the lowest parts, which may be deepened by a few extra furrows, and shovelling out the loose earth. The subsoiling would be useful, but far more so on drained land. Thorough subsoiling requires four horses for the operation; the stronger the team the *deeper* the loosening, without much regard to the size of the common plow which precedes it. Therefore, for a moderate subsoiling, select a two-horse implement; for deeper work, one for four horses.]

Vine Borders.—It would be very advantageous to me, could I build a grapery this season, say in May or June; but I have no compost or other good material with which to form the border—nor do I know where to get it in my vicinity. My only resource is my manure heap, made since November by a pair of horses, two cows, and a couple of pigs. I might procure next month, some street-sweepings from a neighboring village. By advising me through The Cultivator, how to manage, perhaps you would oblige more than one of your many readers. J. V. [Stable manure should form the principal active ingredient of a vine border—say about one-third or one-fourth, and two-thirds or three-fourths good fresh turf, applied in as thin alternate layers as practicable. One-tenth crushed bones, or one-twentieth ground bones would be a useful addition. Street-sweepings would be useful, and would need a smaller admixture of turf. If sufficient manure cannot be had, use a little guano or poudrette, with a larger portion of turf.]

Root Steamer.—Will you, if not too much trouble, give us a description of a feasible steaming apparatus, for hogs and cows. We steam hay a little, but lack the appliances. We have nothing but a farmer's furnace. L. W. J. *Hartford, Conn.* [Our correspondent will probably find the desired information on p. 115 of the Illustrated Annual Register for 1858.]

Culture of Rape for Sheep and Soiling.—I see J. M., Morpeth, C. W., asks if rape can be recommended for sheep. I answer yes. If he raises sheep, I recommend him to grow rape. I raised rape in England, and the last three years I have grown it in Canada West. I consider it the best green food that can be grown for sheep. I likewise found it very good for soiling cattle and young calves. If J. M. wishes more information regarding the management of raising it, I will very freely give it. The seed can be procured in Guelph, C. W., imported from the best seedsmen in England. Practical. *Wellington Co., C. W.* [We shall be much obliged to our correspondent, if he will favor us with the details of his mode of culture, and the disposition he makes of the crop.]

Velocity of a Horse Power.—The larger the band-wheel of a tread power, and the smaller the pulley of the machine it drives, the more velocity with the same speed of the horses or mules which propel it. Does it not require more force or weight to put and keep it in motion, than it does with a smaller band-wheel and larger pulley? It seems so to me. [You are perfectly right.] I have a tread power requiring a larger band-wheel (i. e., in diameter,) to give it the required velocity, and to do justice to the beasts which propel it, but would like to have your opinion first. H. K. [If increased power as well as greater velocity should be found requisite, the latter is to be obtained as above proposed, by increasing the diameter of the band-wheel, and the former by raising the inclination of the horse power sufficiently to accomplish the desired end.]

Poultry House, &c.—Can you, or any of your correspondents, give me the most cheap and improved plan of a poultry house, and yard. J. W. A. [In our Annual Register for 1859, pp. 220 and 221, you will find just what you want.]

King Philip Corn.—Can you or some of your numerous subscribers, inform me where I could procure some of the "Improved" King Philip or Brown corn? H. S. F. *Brooklin, C. W.* [We do not know anything of an "Improved King Philip," but the genuine King Philip corn, can be procured of J. J. Thomas, Union Springs, Cayuga Co., N. Y., and we presume at most seed stores.]

Delaware Grape.—Will you have the kindness to favor me, through The Cultivator, with a description of the fruit, growth, &c., of the *Delaware grape?* By so doing you will much oblige. A Subscriber. [The Delaware grape is a very hardy, vigorous grower, the wood small and short-jointed—the bunches rather small and very compact, often shouldered; the berries about half an inch in diameter, of a copper-rose color—skin thin, very little pulp, flavor sweet, sprightly, and excellent. Holds about the same rank among American grapes that the Seckel does among pears,—for its excellence, hardiness, and small size. It is generally regarded as the best hardy sort.

Buckwheat for Sheep.—In the Co. Gent. of Feb. 17th, W. S. inquires as to the propriety of feeding buckwheat to sheep with lambs. Having had some experience in this matter, I would say buckwheat is one of the best grains to feed sheep and cows where a large flow of mild is desired. I should not, however, advise to feed it before they have dropped their young, because its tendency to increase the flow of milk, would be likely to injure the udder. For feeding laying hens, it does very well for a variety, but should prefer corn or some other grain as the principal food. Lawrence Smith.

Rats.—Can you, or any of the readers of your journal, inform me how to banish rats from a dwelling? I have poisoned them, and in that way can keep them off awhile, but in a short time they get back again. In spite of a wide and deep stone foundation, they have "mined" into my castle—an octagon gravel wall house. Is there no way to expel them, and then barricade them out effectually. T. Boyer. *Gallatin, Tenn.* [In answer to the above, we give the following from another correspondent, who says—"For rats take a box, say one board wide—the wider the better—and from four to six feet long, with a door at each end, (and wire grating for a window,) and raised by an old fashioned well-sweep and a treadle, to drop the doors from a wire from the side. The longer the trap, and the more the bait is scattered, the greater number of rats will be caught at a time. Those that have no dog, may let them run out in a bag to destroy them. N. J.

How to Raise Muck from a Pond.—I have a poor piece of land adjoining a muck pond, which has plenty of muck from three to six feet in depth, which is always covered with water to the depth of two to four feet along on the shore where I desire to get out the muck. Can you give me the information as to how I shall get out, *at the least expense*, a few thousand loads of muck—and do you think it would pay to use on poor, light, sandy soil that has been sapped by its former owners for the last fifty years? Should I require a dredging machine, and if so, what sort, and what will it cost? What effect (compared with other methods,) will it have to spread it on the land as fast as drawn from the pond? I should be happy to hear from any of your subscribers who have

had experience in taking mud from a pond covered with water—explaining the best and cheapest method of doing it. J. B. J.

GUANO FOR CORN.—Will you please inform me as to the proper manner of using guano in the cultivation of corn on green sward. D. P. G. [Compost it with three or four times its weight of dry peat, or friable loam, and after remaining a few weeks, drop a handful in each hill at the time of planting. Or, having first furrowed for the corn, drop a spoonful of clear powdered guano at each hill, cover it an inch deep, drop the corn on this spot, and cover as usual. The latter mode may be easiest in many cases, but in dropping the clear guano, it should not be in a heap, but spread over an area of six or eight inches. The inverted sod must of course have been previously well harrowed.]

SEEDS.—Several inquirers for Apple-pie Melon and other Seeds, are referred to the advertisement of Mr. THORBURN, in this number, p. 181, headed "Novelties."

"INDUSTRY'S" 50 ACRE FARM.—"Subscriber," Mercer county, N. J., makes some inquiries about the account of a 50 acre farm, which we copied from a Philadelphia paper, into the Co. Gent., vol. 12, p. 363. We fear that description of "Industry's" farming, will have to be considered as a fiction, as the writer has failed to answer any of the numerous calls which have been made upon him for farther information.

MALT DUST.—Will you inform me through THE CULTIVATOR, what malt dust is good for—if it is good for corn, and if so, what amount, and how to be applied, and at what time—whether in the hill at planting, or when up. JAMES HIGGINS. [Browne, in his Muck Manual, says that malt dust excels in stimulating a cold soil, and answers best as a top-dressing in spring, and recommends 20 to 30 bushels per acre for grass lands—from 30 to 60, for barley or turnips, and from 40 to 80, for wheat. If any of our readers have used it, we shall be glad to hear from them.]

COWS AND CALVES.—Is there any better market for our calves, than to sell them at a week old for 50 cents, which is the price for "deacon" skins? When we raise them, they bring only from $10 to $15, at two years old, which does not pay for raising. Our dairy cows bring us from $20 to $30 per annum. After deducting cost for keeping and labor, it leaves a very small profit, if any. Each cow consumes about two tons of hay during the winter, which is worth $10 per ton. NATIVE. [We do not know where this comes from, and consequently cannot advise as to the market for his calves. If our correspondent's cows are well fed and cared for, and their milk properly manufactured into butter or cheese, they ought to bring him in more than he states, in almost any part of the country. We shall be glad to have some of our dairy farmers inform us as to the average product of their cows.]

RED-TOP SEED.—In your next, please give the price of Red-top seed. P. B. *Otego.* [We do not find it for sale in this city, but our dealers say they will soon have it. It usually comes in 5-bushel sacks—price per sack, from $5 to $7—per bushel, $1.50@1.75.]

BONES.—I have looked carefully at all that you have published on the subject of dissolving bones. We have no bone mill near, and if means of dissolving bones, at an expense not too great for the farmer, could be had, this exceedingly valuable manure would be within his reach here. A summary of his practice on this subject, with a statement of the expense, from some of your correspondents similarly situated with us, would be valuable. W. O. B.

WHAT AILS MY HORSE?—I have a valuable young horse, and should like to know what ails him. His symptoms are these: He had not been harnessed for a week. I took him out to drive to the city, five miles—he seemed very inactive—could hardly raise a trot—he fell down—did not seem to care whether he got up or not—finally he got up, and came home just like an old worn-out horse, with his head down—I put him in the stable—he ate and drank as usual. The next day or two, he was stupid and stiff—could not turn round short—rather full or bloated. I found he was very foul—had him well cleansed, and gave him loosening things, so that he passes off freely—he is quite fleshy. If any of your numerous readers can tell what ails and what will cure him—he yet remains stiff and inactive—they will greatly oblige S. L. HOTCHKISS. *Wolcott, Ct.*

MAKING MANURE.—I am quite favorably impressed with J. B. B.'s manner of making manure, as represented in Co. Gent. of Feb. 17, p. 108, as I am satisfied it is the most economical method of saving the whole, both the solid and liquid parts, and increasing the bulk. Will the writer inform the readers of the Co. Gent. about his arrangements for feeding? W. A. *Fairfax C. H., Va.*

WATER TROUGHS—CARDING CATTLE.—1. What is the most approved material and manner for making a water trough for barn-yards? I have seen some good ones, but wish to learn more.—2. Is it a practice among careful stock-growers to practice the daily use of the cattle card? I have tried it some and most of the animals seem pleased with the arrangement. Is it thought to be worth while to do it? F. L. W.

CANE SYRUP.—Can any one answer decidedly, whether the syrup of Chinese sugar cane will sour in warm weather to spoil it, or not. J. B. JONES. *Clinton Co., Iowa.*

WOLF TEETH.—Can you tell me what wolf teeth in horses are, and whether they will make a horse blind? A. B. [Wolf, or what are more generally called "blind teeth," are said to come out "between the bridle tooth and grinders—a small long tooth, without roots, and not inserted in a socket, but merely in the gum of the upper jaw." They should be extracted, as there is no doubt that they frequently cause blindness.]

Stabling Cattle—Manure.

MESSRS. EDITORS—I should be glad to hear, through your valuable periodical, the opinion of some of your subscribers on the subject of "*loose boxes, versus stalls,*" for cattle. I do not altogether like the plan of tying them up in stalls. They appear to me to be too much confined. I have just completed a barn, stabling attached, on the loose box principle. Each stall or box is fitted with a rack, the front of which is perpendicular, and a manger below. As the cattle are eating, the hay will fall into the manger, instead of on the ground. This I consider an improvement on the old fashioned, slanting rack.

My plan of feeding to be something like this: Each beast to have his manger filled from the barn floor with straw, and his rack with hay from the mow above. Some will only get straw and a small supply of roots, &c. I find that cattle fed entirely on hay, will still eat a little straw. What straw they leave will be spread for bedding. No dung is to be thrown out, as it will drop evenly about. This will be a saving of labor, besides making a large quantity, as I believe it will, of first-rate manure. Once or twice during the winter, it is my intention to clean out the stable and haul on a sleigh to wherever it may be wanted. The floor of each box is formed of stiff clay. I commence with a liberal supply of straw or some dry litter. I should think sawdust would be a good thing to start with, as an absorbent. The stables are well lighted and ventilated. From what I can learn, cattle kept in this way are much cleaner than tied in stalls. F. F. *Credit, C. W.*

☞ We learn that our friend, JOSEPH JULIAND, 2d., of Bainbridge, Chenango Co., has sold "Sultan," the Short-Horn bull lately advertised in this paper, to B. ZEBINA STEBBINS, Esq., the agent of a stock-breeding company at Deerfield, Franklin Co., Mass.

Notes for the Month.

THE AGRICULTURAL COLLEGE BILL—Since our last we have received Mr. BUCHANAN'S Veto of the Bill granting Lands in promotion of the cause of Agricultural Education. This Bill was only passed by Congress after much opposition, in overcoming which the thanks of the public are due to Mr. MORRILL, its originator, and perhaps also to others. The veto of the bill is based upon its being both "inexpedient and unconstitutional," because, 1, it will deprive the Treasury, the President asserts—of nearly the whole revenue it next year counts upon from sales of Public Lands; 2, it interferes with the constitutional relations existing between the General and the State Governments; 3, it will operate to the injury of the new states; 4, its favorable influence for the advancement of agriculture and the mechanic arts is questioned, and, 5, it would interfere seriously with already existing institutions.

We give these positions assumed in the veto message, which do not represent the whole argument it contains, not in order to combat them, but to show in part the grounds on which the designs of Congress in behalf of our immense Agricultural interests, are ostensibly prevented from execution by the exertion of the objective power lodged in the hands of the President. If the same objections were considered of equal force, when the interests of merchants, manufacturers, and speculators are brought up for fostering aid; when steam lines are to be established, tariffs to be adjusted, bounty warrants thrown out in a flood over the country, and vast territories partitioned off section by section to railroad lines, the Farmers of the United States would feel less sensibly a discrimination against their claims, which must strike them, we fear, as partial and one-sided, however it may be fortified by constitutional considerations and legal arguments.

"HONEY BLADE HUNGARIAN GRASS."—In answer to several inquiries about the seed advertised under this name, we may state that Mr. BENTON of St. Louis, who advertises it, claims that it is a "superior variety, although of the same species as what is here known as the Hungarian Grass." The Hungarian grass we have heretofore shown, is the true German millet—*Setaria Germanica* of Loudon. It is called by the French, *Moha de Hongrie*, and under this name has been distributed by the Patent Office. That it has proved a valuable forage crop on the Prairies, there can be no doubt, and we doubt not that a larger crop of hay can be produced from it at the east, on well prepared soils, than from even good meadows. We have published, during the last twenty years, many communications highly favorable to it, from those who have cultivated it under the name of millet.

CATTLE SALES.—We understand that Dr. HERMAN WENDELL has sold his very fine roan bull "Duke of Cornwall," to the Messrs. BRACE of Herkimer Co., and to EZRA MEECH, Esq., of Shelburne, Vermont, roan bull "Lancashire." Both the above are the get of imported Lord Ducie (13181)—the Duke of Cornwall out of imported Lady Liverpool, and Lancashire out of Dutchess of Exeter. We cannot but congratulate the farmers living in the vicinity of where these valuable animals are to go, upon the opportunity they will have of improving their stock, for we understand that the Messrs. Brace intend to allow their bull to serve for a moderate sum, and we presume Mr. Meech intends to do the same.

RAPID GRAFTING.—HENRY SMITH, now of Aurora, Cayuga Co., N. Y., set in a single day, working only ten hours, *three thousand* root grafts, a few weeks since while in the employment of J. J. THOMAS of Union Springs; an assistant applying the wax plasters; and on a subsequent day he *grafted thirty-five hundred within eleven hours*. The work was done in the very best manner. We intend to describe on a future occasion, with illustrations, the mode of operating by which this work was done, although it may not be new to some nurserymen, who may be familiar with equally expeditious labor.

THIRTY-ACRE FARM.—A correspondent in Connecticut, in a private letter, says—"I have a farm of thirty acres. Two years ago we could barely keep three cows, one heifer, and two horses. Now we have twelve cows, four heifers, one sheep, and three horses in summer and two in winter, to say nothing of hogs, of which we keep a goodly number. When we can keep one cow to every acre, I will give you the details. We soil the cows of course."

CORRESPONDENCE.—Our friend JOHN JOHNSTON informs us that, in addition to all he has written for the Agricultural papers, he has answered, during the past year, no less than 164 private letters addressed to him, making inquiries in regard to farming matters. Mr. J. says—"Of the 164, three omitted to send stamps—four sent each a stamp extra, I suppose to pay for paper and envelop, and one sent nine stamps, asking me to write any time any thing new occurred which would instruct him."

☞ The Transactions of the Hampden Co. (Mass) Ag. Society for 1858, have been sent us by W. E. BOICE, Vice-President for Blandford. The pamphlet includes also a report of the Horse Exhibition held last fall at Springfield. We are pleased to see that the public-spirited efforts of the officers of this body, appear to have been rewarded by an unusual degree of success.

POTATO DISEASE.—We have a letter from Hon. LYMAN REED of Baltimore, accompanied by documents which would occupy more than a page of our paper, with the request that they may appear in the Co. Gent., all tending to show that Mr. Reed has discovered the true cause of the potato disease, in the attacks of an insect on the tubers, roots, and stalks *under ground*. We have looked over the statements and certificates with some care, but they do not seem to us, by any means, to demonstrate Mr. Reed's position, and in the present crowded state of our columns, we are unable to devote so much space as is required for a discussion of the subject, the more especially as we do not see how it would lead to any beneficial results.

ALDERNEY BUTTER.—Mr. JOHN T. NORTON of Farmington, Ct., who has a very fine herd of Alderney cattle, has, we are informed, at this time, fourteen cows in milk, the butter from which he now sells—a portion of it to a dealer in Boston, and a portion of it to the Astor House, New-York—at forty-two cents per lb. The best butter, it is generally admitted, can be made from Alderney cows; but it must be *well made*, to bring such a price as this. Mr. N. informs us that his cows last year averaged 176 lbs. butter each.

VALUE OF BACK VOLUMES OF AG. PUBLICATIONS.—We make the following extract from a business letter written by a Michigan subscriber of the Co GENT:—"We are very proud of your Agricultural Publications. We have the *Genesee Farmer* of January first, 1831, and the most of your agricultural papers ever since, all neatly bound and in good order, except they are well thumbed. We would not part with them for five times their cost."

GRASSES FOR THE PRAIRIE.—A Kendall Co. farmer, "twenty-one years in Illinois," speaking in the *Prairie Farmer* of grass-growing and culture, says: "To have good pasture we must have a variety of grasses. Ours (pronounced as good by a New-York cattle man as he ever saw,) is composed of white and red clover, which we have sown in the chaff; timothy, which we have got in both by foddering on it, and by sowing the seed; June grass is natural to this region, and soon shows an abundant proportion, but none too much." He has also some blue-grass, and says that all tame grasses can readily be introduced by merely sowing the seed either on the burned-over or unchanged prairie. We believe this a subject of great importance to our Western read-

ers—the prairie grass cannot be depended upon either late or early in the season.

☞ It may not be improper to mention here, that the Junior Editor of the COUNTRY GENTLEMAN and THE CULTIVATOR, proposes to spend several months abroad the coming season, for the purpose of acquainting himself as thoroughly as his time will permit, with the Agriculture and Horticulture of Great Britain and the Continent. His intention at present is to devote May and a part of June to a hurried tour through some portion of France, Northern Italy, Switzerland, Germany, Belgium, and the Netherlands, to be present, if possible, at the Agricultural Exhibition which is promised at Paris during the summer, as well as at those of the Royal Ag. Societies of England and Ireland and the Highland Society of Scotland, and to expend the remainder of the summer in inspecting with some minuteness the modes of cultivation practiced by the best practical farmers in various parts of the three kingdoms. The results of his observation will be communicated from time to time through our columns, and, while it forms no part of his contemplated plan to undertake commissions of any kind, his services as far as consistent with other engagements, will be cheerfully placed at the disposition of any of our friends who may desire to avail themselves incidentally of the opportunity thus offered, *while any information from them tending to further the objects of the journey*, and to place within his knowledge and access either persons, places, or establishments, whose acquaintance would be of value and which might be otherwise overlooked in the arrangement of his time, *will be most thankfully received and acted upon*. Communications should reach us by the middle of April.

FRENCH POTATOES.—Attention is invited to the advertisement of B. K. BLISS of Springfield, Mass., who it will be seen offers a great variety of potatoes raised from tubers grown in France, and specially selected for this country. The *Springfield Republican* says:

"Those who attended the late Hampden County Fair will remember the exhibition made by B. K. Bliss of this city, of one hundred and five varieties of potatoes, raised by him, from tubers imported from France. The same specimens were exhibited in Hartford, at the Connecticut State Fair, and elicited much admiration and inquiry. The tubers for these specimens were sent to him by Vilmorin, Andrieux & Co. of Paris, seedsmen to the Imperial Agricultural Society, and embraced all the popular varieties cultivated in France, and many not fully introduced. Some of them have shown themselves to be very prolific, and very fine in the eating; and we suggest to farmers in this region that they may possibly, and very probably, in fact, get something out of these potatoes of great value to the farming community, independent of the advantages to be derived from a simple change of seed."

PRICES OF FRUIT IN OREGON.—Extract of a letter from a subscriber at Oregon City, dated Jan. 8, 1859—"My last my shipment of apples to San Francisco California, netted me eighteen cents per lb. They are now 27 cents per lb.—worth here in Oregon, 20 cts.—retail at 25 to 40 cents. Apples exported this year will bring into Oregon not less than one million of dollars. We had one snow three inches deep—lay on the ground one week—it is now frosty nights with clear, thawy days. M. B."

☞ Messrs. C. & W. MCCAMMON, the well known Tile makers of this city, have issued a Price-card for 1859, in which they reduce their rates materially on several of the most frequently called for sizes. They will be glad to answer any inquiries on the subject of Draining, and offer their advice, where it is desired, as to the practical performance of the operation.

FIELD AND GARDEN SEEDS
from reliable growers.
Agricultural and Horticultural Implements of the most approved patterns.
GRIFFING BROTHER & CO.,
Feb. 10—w&m3ms 60 Cortlandt-st., New-York City.

COMMERCIAL AGENTS WANTED.
Able and honest men from New-England or New-York. A. W. HARRISON, Philadelphia, Pa. feb.10-6*

AGRICULTURAL IMPLEMENTS
AT MANUFACTURER'S PRICES,
Consisting of Endless Chain Horse Powers and Threshers, Excelsior Fan Mills, Corn Shellers, Harrows, Straw and Hay Cutters, Cider Mills and Presses, Churns, Cultivators, Iron and Wood Beam Plows, &c., &c. Send for a Circular giving prices. For sale by A. LONGETT,
Mar 1—m3t | mar 24—w6t No. 34 Cliff-st., New-York

NEISHWITZ' MOWER AND REAPER.
Buckeye Mower and Reaper.
For sale by A. LONGETT,
Mar. 1—m3t | ap. 7—w4t 34 Cliff-st., New-York.

ELLWANGER & BARRY'S old established "*Mt. Hope Nurseries*," Rochester, N. Y. Orders received at *Agricultural Depot*, 100 Murray-st., New-York.
Mar.1—m1w2t | ap1—m1w2t HENRY F. DIBBLEE.

EUROPEAN POTATOES.—The subscriber received last spring from the Seedsmen to the Imperial Agricultural Society of France, a collection of *One Hundred varieties of Potatoes*, selected as the *best* from upwards of *Five Hundred varieties*, collected from all parts of the world, and cultivated by that Society for the purpose of testing their quality.

This collection has been carefully cultivated during the past season, and specimens exhibited at some of our State and County Fairs, which have attracted much attention. From these, *fifty varieties* have been selected, which for their productiveness, fine flavor, and freedom from disease, (no signs of rot appearing in any of them,) can be recommended as every way desirable for general cultivation. A large proportion of the remaining varieties promise well, but he has thought it desirable to give them another year's trial before sending out. For the purpose of introducing as extensively as possible, he has put them up in collections as follows, which can be sent by *Express* to any part of the country:

50 varieties, 3 potatoes each, each sort distinctly labelled, ... $5 00
20 varieties, 10 potatoes each, distinctly labelled, ... 4.00
10 " 20 " " " " 3 00

All orders must be accompanied with the cash.
Address B. K. BLISS,
Mar17—weow4tm1t Springfield, Mass.

THE LODI MANUFACTURING CO.
Poudrette! Poudrette!!
Is offered for sale by the subscribers, wholesale and retail, in lots to suit purchasers. This article has been now in use for over 17 years, and is the most popular manure for corn and early vegetables, in market.

It is quick and powerful, and can be put in direct contact with the seed without injury. Price $1 50 per barrel, delivered on board of vessel, for any quantity over 6 barrels. $2.06 for a single barrel.

CERTIFICATES.

The undersigned have used the Poudrette of the Lodi Manufacturing Co., for the number of years, and upon the crops set opposite to their names, and can recommend it as a cheap, and most excellent fertilizer.

Charles Smith, Bloomfield, N. J., 10 years, corn.
Cyrus Canfield, Caldwell, " 10 " "
John Squires, Livingston, " 10 do. and garden truck.
A. J Jacobus, " " 17 do. " "
H W. Harrison, Caldwell, " 10 do. " "
J. Simpson, Franklin, " 8 do. " "
Hiram Farnham, Livingston, " 15 do. " "
J. A. Harrison, Orange, " 10 do. " "
B. F. Lum, Chatham, " 15 do. " "

A pamphlet containing certificates of practical farmers in all parts of the United States, with every information and direction for use, will be mailed to any one sending the address. GRIFFING BROTHER & CO.,
General Agents for the Company,
NORTH RIVER AG. WAREHOUSE, 60 Cortlandt-st, N.York.

TO PLANTERS AND FARMERS.
CORIA.
This fertilizer is composed of dead animals, leather scraps, old boots and shoes, (gathered in cities,) dissolved by a new and ingenious process, into a liquid of the consistency of molasses; to this is added night-soil, blood, and ground bones. The whole is then dried and ground.

It is offered for sale on the strength of the well-known fertilizing qualities entering into its composition. Circulars, with directions for use and analysis, will be forwarded on application to the subscribers—agents for the Lodi Manufacturing Co. GRIFFING BROTHER & CO.,
North River Agricultural Warehouse,
March 1—m3t No. 60 Cortlandt-st., New-York.

TRANT'S EVERGREEN PEA.—The subscriber now offers to his friends this new and valuable Pea. It bears the following description:

"Trant's Evergreen Peas can be planted as early as the ground will admit of cultivation, and also very late, so that a family can have a supply all the season. Plant from six to eight inches apart, brush eight feet high; they are productive, cook easy, and have been pronounced unequaled for their delicious flavor by all who have tried them."

"At the State Fair held at Buffalo, (at which they were awarded a premium,) a gardener from Canada offered Mr. Trant five dollars for one gallon! This is mentioned merely to show how highly they are appreciated. Packages twenty-five cents, (by mail forty-six cents,) containing sufficient for one family.

WILLIAM THORBURN, Seedsman,
March 10—w3tm1t 492 Broadway, Albany, N. Y.

FOR SALE.—100 BARRELS PURE *PRINCE ALBERT POTATOES.*

50 bushels Rough Purple Chili Potatoes.
50 bushels Peach Blow Potatoes.
10 bushels New-Hartford Potatoes.
10 bushels Garnet Chili Potatoes.

Warranted Genuine, and have never been known to rot in any soil. Price $5 per barrel or $2 per bushel.

F. W. NOBLE,
Mar 1—m3t Easton, Pa.

MAPES' NITROGENIZED SUPERPHOSphate of Lime—also first quality of Peruvian Guano, for sale at *Agricultural Depot*, 100 Murray-st., New-York.
Mar.1—m1w2t | ap1—m1w2t HENRY F. DIBBLEE.

CHEAP HOMES FOR ALL.—Persons seeking a new home, can do well by coming to Virginia. Land is cheap; climate mild and healthy For any information desired, concerning locations, psices, &c., address L. H. REYNOLDS, Maple Valley, Prince William Co., Va. Mar17—w3tm1t

PLATTSBURGH NURSERIES.—**Hardy Northern Fruit Trees.**

Apple Trees—Standards and Dwarfs, all choice kinds.
Pear Trees—Standard and Dwarfs, all choice kinds.
Plums, Cherries, Raspberries, Gooseberries and Currants—all the best sorts.
New-Rochelle Blackberries—fine plants.
GRAPES.—The following new choice kinds at the lowest rates: Delaware, Rebecca, Diana, Marion, Hartford Prolific, Concord, and Northern Muscadine; and all the old sorts in abundance.
ROSES.—Perpetual, Moss, Climbing and other choice kinds. *Ornamental Trees and Shrubs*, Herbaceous Plants, &c., &c.

Our new Descriptive and Priced Catalogue will be sent on application. JOHN W. BAILEY & SON,
Mar17—w3tm1t Plattsburgh, N. Y.

DRAIN AND ROOF TILE MACHINE.—The subscriber is Patentee and Manufacturer of the best Machine extant, for making Drain and Roof Tile, and Hollow and Solid Brick. The Machine grinds the clay, moulds it into Tile, Bricks, &c., and delivers them on to the drying boards, at the same operation, by horse or other power. Also the best Drying Apparatus known. For further particulars, address F. M. MATTICE.
Mar3—weow3tm1t Buffalo, N. Y.

D. L. HALSEY, DEALER IN *CRANBERRY PLANTS*,
Victory, Cayuga County, N. Y.
☞ PRICE—$1 per Hundred—$6 per Thousand.
Feb. 24—weow6tm2t

SHORT-HORN HERD AT AUCTION. Having sold my farm at Chestnut Ridge, Dutchess county, N. Y., I will offer for sale at auction, my entire Herd of Short Horned Cattle, consisting of about 35 head superior animals. Among them will be the unrivalled Bull "*Highflyer*," 578; also, stock sired by him, as well as the "*Earl of Warwick*," 465. The sale will take place at Dover Plains, on the New-York and Harlem Rail Road, on the 10th day of May next, at 12 o'clock.

Catalogues of Pedigrees may be had after the 10th day of March, at the offices of the *American Agriculturist*, New-York; *Country Gentleman*, Albany; *Ohio Farmer*, Cleveland; *Boston Cultivator*, and of the subscriber,

SAMUEL T. TABER,
Mineola, Queens Co., N. Y.

P. S. No animals will be disposed of before the sale at auction. Feb. 24—w10tm2t

GARDEN, FIELD, FLOWER, *AND FRUIT SEEDS.*

The subscriber offers a full assortment of the above Seeds, of the growth of 1858, of the very best qualities, and in addition to all the Standard varieties, will be found many novelties. Orders by mail attended to immediately. Wholesale and Retail.

A CATALOGUE, containing full lists of Seeds and Prices, furnished on application.

SEED POTATOES of all choice kinds.

SPRING WHEAT, SPRING RYE, SPRING BARLEY.

OATS of superior quality.

GRASS AND CLOVER SEEDS.—Honeyblade or Hungarian, Green, fine mixed Lawn, Blue, Orchard, Timothy, Red Top, &c.; Red Clover, White Dutch, Luzerne, &c.

PEABODY'S STRAWBERRY PLANTS—$3 per 100—$2 for 50. Also *Wilson's*, *Hovey's*, and all other popular varieties.

Lawton Blackberry Plants.
Asparagus and Rhubarb Roots, &c., &c., &c.

R. L. ALLEN,
189 Water-st., New-York.

FARM AND GARDEN IMPLEMENTS of every description, and of the best and latest improvements.

Also *Peruvian Guano, Dried Blood and Wool, Bone Dust, Superphosphate of Lime*, and all other improved FERTILIZERS in large and small quantities.
Mar3—weow5tm2t

WOOD'S MOWER.—**Patented February 22d, 1859.**

During the six years I have been engaged in the manufacture of the Manny Combined Reaper and Mower, I have given much thought and attention to the construction of what I foresaw would be a great want of the Farmers—a lighter and cheaper machine expressly for mowing, than had yet been made.

And now, after the most thorough and repeated experiments and tests in every variety of field, and in all kinds and in every condition of grass, I am prepared with entire confidence to offer to the farmers and dealers of the United States, the great *desideratum* in this department of Agricultural labor-saving machines—a Mower, superior in its capacity for good work to any hitherto introduced, of easy draft, light, cheap, and durable.

This machine I now offer as my latest invention, to meet a special want of farmers, and to place within the reach of all, a Mower that for practical working, cheapness and simplicity, will be without a rival.

I build Two-Horse and One-Horse Mowers. The Two-Horse Mower weighs 425 lbs., and cuts a swath four feet wide (or more if specially ordered.) The One-Horse Mower weighs 30 lbs. less, (395 lbs.,) and cuts a swath three and a-half feet wide.

For a more full description of the Mower, reference is made to my Pamphlets, which will be furnished on application. With each machine will be furnished two extra guards, two extra sections, one wrench and oil-can.

Warranted capable of cutting ten acres of grass per day in a workmanlike manner.

Price of Two-Horse Mower,---------- $80
" One-Horse Mower, ---------- 70

Delivered here on the cars.

I continue as heretofore, and with greater success than at any previous time, the manufacture and sale of "Manny's Patent Combined Reaper and Mower with Wood's Improvement." WALTER A. WOOD,
Manufacturer & Proprietor,
Mar24—w&mtf Hoosick Falls, N. Y.

Agricultural Books,
For sale at the office of the Country Gentleman.

OPPOSITION TO HAND LABOR.—D. W. SHARES' Agricultural Implements for sale—Horse-Hoeing Machine, Seed Planter, and Coulter Harrow, the greatest labor-saving implements of the day, sent to any part of the country, except on territory that is sold.

☞ Patent Rights for Sale.

For further particulars address the subscriber, who will send Circulars or any information desired, free to any part of the United States. D. W. SHARES,

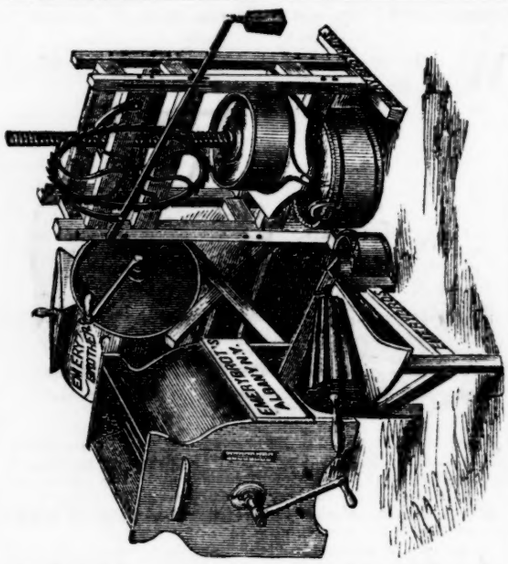
Mar24—w&m1t Hamden, Conn.

NEW AND CHEAP FERTILIZER.—CASTOR PUMMACE.

A valuable *organic* (vegetable) manure, analyzed by Prof. Samuel W. Johnson of Yale College, and commended by him. It is PUMMACE left after pressing the oil from the Castor Seed, and in India and England bears a high value as a fertilizer. It will be sold at $12 to $16 per ton, according to quality—at which rate it is the cheapest fertilizer in the market. The analysis and remarks of Prof. Johnson will be sent to any address on application; samples of the article may also be obtained if required.

No charge for packages, and in lots of Ten Tons, delivered free of cartage in this city. Manufactured and sold by H. J. BAKER & BRO.,

Mar24—w8tm3t 142 Water-st., New-York.



DAIRY IMPLEMENTS,

MANUFACTURED BY

EMERY BROTHERS,

PROPRIETORS OF THE

ALBANY AGRICULT'L WORKS,

62 & 64 State Street,

ALBANY, N. Y.

FROM a large experience, and the many trials with almost every Churn which has claimed the attention of the public for the last thirty years, as well as repeated experiments and microscopic examinations of milk, cream and butter, sweet and sour cream or milk, and at all temperatures from 50° to 80° Fahrenheit, the proprietors are satisfied that the process of churning is simply mechanical, and the only requirement is the proper temperature, and butter-yielding milk or cream.

Probably no process known is more correct than that of the common Dash Churn. The specific gravity of the particles of butter is much less than that of the milk, and they instantly rise to the surface, and each stroke of the dasher downwards, carries the particles with a compressing force against others below them—the milk itself forming the fulcrum. These particles, when of the proper temperature (62° to 65°) to receive and retain form, become butter by the simple process of compressing and expelling the milky fluid from between them, and the attraction of cohesion between the particles themselves.

As the Crank Churn is more in consonance with the best application of the human muscular system, they have come into very general use for hand power, throughout the butter-making sections. The most complete are those whose beaters and blades conform most nearly in their action to the common Dash Churn.

Those constructed with double metallic cylinders for holding the cream inside, and regulating the temperature by hot or cold water between the cylinders—also with a thermometer set in the end of the churn, in contact with the cream, showing its temperature at all times, are considered the most desirable, and are shown on left of the plate at the head of this article, and is known as

CROWELL'S PATENT THERMOMETER CHURN.

PRICES AND SIZES AS FOLLOWS:

No. 1—1 to 3 cows, contains 4 gallons,	$ 3.50
No. 2—3 to 5 cows, contains 6 gallons,	4.00
No. 3—5 to 8 cows, contains 9 gallons,	4.50
No. 4—8 to 16 cows, contains 12 gallons,	5.00
No. 5—16 to 24 cows, contains 15 gallons,	6.00
No. 6—24 or more cows, (2 cranks,) 30 gallons,	12.00

WOOD CYLINDER CHURN.

This is seen in the middle back-ground of the plate, and is similar in its operation and use as the Churn last described. It is a simple wood cylinder with crank shaft and beaters, and is perhaps in more general use than any other Crank Churn. It is the cheapest and most simple, and with the use of a thermometer to get the cream at a proper temperature, before it is put into the churn, the farmer can churn with it as easy and well as with the Thermometer Churn. Their prices and sizes are as follows, for the four sizes now made:

No. 2—2 to 5 cows, 6 gallons,	$2.25
No. 3—5 to 8 cows, 9 gallons,	2.75
No. 4—8 to 16 cows, 12 gallons,	3.25
No. 5—16 to 24 cows, 15 gallons,	4.00

BUTTER-WORKER.

Much depends on the manner of working the butter after it is churned, as this is but a continuation of the process of churning, and consists chiefly in expelling the remaining milk from among the particles of butter in the mass, as it is taken from the churn, which, if not thoroughly done, will in time become rancid, and produce what is termed strong butter, and which depreciates it in price from 10 to 30 per cent. in market.

A good Butter-Worker is shown in the middle foreground, and is made of a quadrant-formed hard-wood table, upon three legs, with ledges on the two straight sides, coming nearly together at the square corner. The leg at this corner is a little lower than the other two, which causes the milk and water to drain off into a pail or tub for the purpose. Over this table is a fluted conical cylinder, with a hole through its center for a handle to pass through, and attach to an iron staple at the lower end. It is operated by rolling it backward and forward over the whole table, where the butter is kneaded over and over as a baker kneads his dough. The salting and seasoning is also done with the same machine. This is also very useful for bread-making purposes when desired.

Price, all wood,..... $7.00 | Price, with marble slab, $15

CHEESE PRESSES.

The requisites of a good Cheese Press are a continuous and uniform pressure upon the cheese during the pressing process, and the practicability of adapting it to the required force for cheeses of all sizes, in such a manner that they shall be uniformly pressed. The Press shown in the illustration at the right hand, is one of the most efficient, cheap, convenient, simple and portable ever made, and is in very general use in several of the largest cheese-making counties in this State. The illustration is too plain to need any description. It is a simple rack and pinion—the rack extending upward from the follower, and passes the pinion which is inside the frame; the pinion is fitted upon the same shaft with the large ratchet-wheel upon the side of the frame. One end of the iron lever which passes across the Press, is fastened upon a fulcrum bolt at one side of the Press, and passes through an iron guide, and receives the necessary weight upon the extended end. Upon the iron lever near the fulcrum bolt, is attached a hook or pall, which, on raising the weight end of the lever, catches hold of the teeth on the large wheel, and on letting go the lever, the hook pulls upon the large wheel, and by it the pinion is turned in the rack, producing the downward pressure, which continues until the lever rests upon the guide, when the attendant simply raises the lever and weight again, and the hook takes hold of other teeth in the wheel. The whole Press weighs about 150 pounds, and is worth $12, and suitable for a cheese of 50 to 100 lbs. For further particulars, address

EMERY BROTHERS,

62 & 64 State-st., Albany, N. Y.

☞ Catalogues furnished gratis, on receipt of six cents to prepay postage on same. Mar17—w&m1t

SEED CORN.—I have about 100 bushels of Selected Seed Corn, of the yellow eight-rowed red blaze variety, one of the best and handsomest varieties in cultivation, which I will enclose in sacks and deliver to express at Port Byron, for $1.50 per 60 lbs. Address GEO. R. LOCKWOOD,
Mar17—w1tm1tMay1—w1t Victory, Cayuga Co., N. Y.

EARLY PARIS CAULIFLOWER, and PERUVIAN FLAT DUTCH CABBAGE—the best varieties known; both sure to head. Each 12½ cents per package by mail. Address "RURAL EMPIRE CLUB," Macedon Center, Wayne Co., N. Y. Mar10—w&mtf

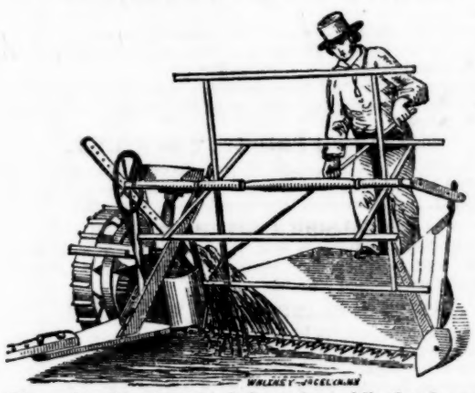
WM. R. PRINCE & CO., FLUSHING, N. Y., will send Priced Catalogues of any department of their Nurseries to applicants who enclose stamps, including a recent Supplement Circular of Fruit Trees and Small Fruits, at reduced rates, and 150 varieties of Native Grapes; as well as their usual Catalogues of Trees, Plants, Seeds, Bulbs, &c. Mar17—w&m1t

NOVELTIES!—NOVELTIES!!
JAPAN APPLE-PIE MELON, per packet 25 cents—by mail 28 cents.
BRADFORD WATERMELON, per packet, 25 cents—by mail, 28 cents.
POMARIAN WATERMELON, per packet, 10 cents—by mail, 13 cents.
THE TRUE HUBBARD SQUASH, (from J. J. H. Gregory, the original introducer,) per packet 25 cts.—by mail 28 cts.
TRANT'S EVERGREEN PEA, per packet 25 cents—by mail 46 cents.
For sale by WILLIAM THORBURN, Seedsman,
Mar17—w3tm1t 492 Broadway, Albany, N. Y.

MANNY'S COMBINED REAPER AND MOWER,

WITH WOOD'S IMPROVEMENT,

For the Harvest of 1859.



The subscriber begs to inform the public that he continues to manufacture this popular machine, and pledges himself to produce an implement that will fully sustain its former reputation, as the best combined machine yet introduced, and inferior to none, either as a Reaper or Mower.

It has had a steady and increasing popularity from the first achieving a complete success in the first important trial at Geneva in 1852. It carried off the highest honors at the great National Field Trial at Syracuse in 1857; and amidst all the competition and trials of 1858, came out with more and better established points of excellence than ever before.

The general principles peculiar to this machine, and upon which it is constructed, have proved so successful that there has been no attempt to change them.

The main effort during the last year has been to improve its mechanical construction, to make it stronger and more durable, and sustain its reputation as the leading and most acceptable machine to the largest class of farmers in the country.

Warranted capable of cutting from 10 to 15 acres of grass or grain per day, in a workmanlike manner.

Price of Machine as heretofore, varies according to width of cut, and its adaptation in size and strength to different sections of the country, from $125 to $150, delivered here on the cars. WALTER A. WOOD,
Manufacturer & Proprietor,
Mar24—w&mtf Hoosick Falls, N. Y.

WHEELER, MELICK & CO.,

PROPRIETORS

N. Y. State Agricultural Works,

Manufacturers of Endless Chain Railway Horse Powers, and Farmer's and Planter's Machinery for Horse Power use, and owners of the Patents on, and principal makers of the following valuable Machines.

Wheeler's Patent Double Horse Power

AND

Improved Combined Thresher & Winnower.

(Shown in the Cut.)

Our first Combined Thresher and Winnower was invented and made in 1851. Continued experiments resulted in 1857, in the present

Wheeler's Improved Patent Combined Thresher and Winnower.

This Machine is a model of simplicity and compactness, and is made in the most substantial manner, so that its durability equals its efficiency and perfection of work. Its capacity, under ordinary circumstances, has been from 125 to 175 bushels of wheat, and from 200 to 300 bushels of oats per day. It works all other kinds of grain equally well, and also threshes and cleans rice, and timothy seed. Price $245.

Wheeler's Patent Single Horse Power

AND

Overshot Thresher with Vibrating Separator.

This is a One-Horse Machine, adapted to the wants of medium and small grain-growers. It separates grain and chaff from the straw, and threshes from 75 to 100 bushels of wheat, or twice as many oats per day without changing horses—by a change, nearly double the quantity may be threshed. Price $128.

Wheeler's Patent Double Horse Power

AND

Overshot Thresher with Vibrating Separator.

This Machine is like the preceding, but larger, and for two horses. It does double the work of the Single Machine, and is adapted to the wants of large and medium grain-growers, and persons who make a business of threshing. Price $160.

Also, Circular and Cross-Cut Sawing Machines, Clover Hullers, Feed Cutters, Mowers and Reapers, Horse Rakes, and other Farming Machines.

Our Horse Powers are adapted in all respects to driving every kind of Agricultural and other Machines that admit of being driven by Horse Power, and our Threshers may be driven by any of the ordinary kinds of Horse Powers in use—either are sold separately.

☞ To persons wishing more information and applying by mail, we will forward a Circular containing such details as purchasers mostly want—and can refer to gentlemen having our Machines, in every State and Territory.

Our firm have been engaged in manufacturing this class of Agricultural Machinery 24 years, and have had longer, larger, and more extended and successful experience than any other house.

All our Machines are warranted to give entire satisfaction, or may be returned at the expiration of a reasonable time for trial.

☞ Orders from any part of the United States and Territories, or Canada, accompanied with satisfactory references, will be filled with promptness and fidelity; and Machines, securely packed, will be forwarded according to instructions, or by cheapest and best routes.

WHEELER, MELICK & CO.,
Mar17—w2tm1t Albany, N. Y.

MAPES' CELEBRATED ONE-HORSE Steel Subsoil Plow, for deep cultivation of crops during their growth. Also the same pattern, *three larger sizes*, for deep subsoil plowing For sale at Agricultural Depot, 100 Murray-st., New-York.
Mar.1—m1w2t | ap1—m1w2t HENRY F. DIBBLEE.

HUNGARIAN GRASS SEED—the *real genuine* "Honeyblade" and all; also pure CHINESE SUGAR CANE SEED, from Mr. Peters of Atlanta, Ga—2 oz. to 4 oz. samples—free to all who ask. Address "RURAL EMPIRE CLUB," Macedon Center, N. Y., and enclose stamps for postage. Mar10—w&mtf

EXCELSIOR AGRICULTURAL WORKS,

TIVOLI HOLLOW, ALBANY, N. Y.,

RICHARD H. PEASE, Proprietor.

I would call the attention of your readers to the following articles of my manufacture, being satisfied that they are, each and all of them, the very best and cheapest labor-saving machines ever offered to the public. I use none but the best material, and employ as experienced workmen as can be had; hence my work is unsurpassed, both in utility and durability. All I ask is that you should make a trial of any of my machines, and I am confident of giving satisfaction. The Excelsior

CHANGEABLE RAILWAY HORSE POWERS,

Have long been acknowledged to be the best, most durable, and easiest working machines in use. They have invariably taken the First Premium at every test trial where they have been exhibited, both at the United States and State and County Fairs. Price $116.

CADY'S IMPROVED LEVER HORSE POWER,

To be driven by 2 or 4 horses, is a first-rate machine for heavy work, as it combines durability and cheapness, and has a variety of motions with same speed of horses. Price $60.

Excelsior Changeable Thresher and Separator,

For threshing and separating any kind of grain, has stood many severe tests with uniform success, and can be run by wind, steam, or horse power. With my One-Horse Power, it is capable of threshing from 100 to 175 bushels of wheat, rye, barley or buckwheat, or from 175 to 200 bushels of oats, in one day; and with the Two-Horse Power and one extra hand, nearly double the work can be performed. Price, Single, $37; Double, $40.

THRESHER AND CLEANER COMBINED,

To be run by the Two-Horse Power, are warranted to clean the grain thoroughly. They are quite compact, occupying but little more room than the Thresher, and are highly recommended by those using them. Price $125.

Excelsior Circular and Cross-Cut Saw Combined,

(Cady's Patent,) can be attached to any horse, water, or steam power, with a belt, and is capable of performing more work than any machine of the kind in use. Over 100 of these machines were sold in one State last year, and all worked to a charm. Price $65.

EXCELSIOR CIRCULAR SAW MILL,

For sawing cord wood, stove wood, &c., has been in extensive use on the railroads in the country, and also by many farmers, and is just the thing for the purpose. With a One-Horse Power, it can saw from 20 to 25 cords of wood in one day, and with a Two-Horse Power and an extra man, much more. Price $37.

Slitting Table and Saw, for fence stuff, fitted to above machine, at the trifling expense of $7. Is very convenient for farm use.

EXCELSIOR CROSS-CUT SAW-MILL,

To be run by the Excelsior Horse Power. Is capable of sawing a log 4 feet in diameter. Its cheapness and facility of using, recommend it to general use. Price $25.

EXCELSIOR CLOVER HULLER.

This little machine is capable of hulling from 5 to 10 bushels of seed in a day, without injuring or wasting it in the least. Price $32.

EXCELSIOR CIDER AND WINE MILL,

(Krauser's Patent,) is highly recommended as a great improvement over other portable mills. It grates the apples into a fine pomace, which falls into the tub, which is then shoved under the Press, where it can be subjected to a pressure of nearly 10 tons, thus obtaining every particle of juice. Price $45.

EXCELSIOR DOG POWER,

For churning, turning grindstone, &c., is got up in a most substantial manner, all the shafting and rollers being of iron. Is easily attached to any churn, and is a great saver of time. Price $18.

Shares' Patent Coulter Harrow & Grain Coverer.

This machine is a great improvement on the Scotch or drag harrow, and it saves once plowing. It lifts, loosens, and pulverizes the soil, and makes the ground as smooth as could be made by raking. Price $15.

Share's Patent Hilling, Hoeing & Covering Machines

For covering, cultivating, and hoeing potatoes and corn They do away entirely with the hoe, and by tilling and cultivating all parts equally, they insure a much larger crop.

Orders respectfully solicited, and promptly attended to, for any of the above-mentioned machines, which are all warranted to give satisfaction, or they can be returned at my expense.

All descriptions of Agricultural Machinery built to order, in the best manner, at short notice.

Catalogues sent free, by addressing

RICH'D H. PEASE,
Mar17—w&m1t Excelsior Ag. Works, Albany, N. Y.

LEVER HORSE POWERS,

MANUFACTURED BY

EMERY BROTHERS

PROPRIETORS OF THE

ALBANY AGRICULT'L WORKS,

62 & 64 State Street,

ALBANY, N. Y.

THERE is much diversity of opinion among men who follow threshing as a business, as well as Farmers and Horse Power manufacturers, concerning the relative economy and practicability of the Lever or Sweep Powers and the Endless Railway or Gravity Powers This can only be settled by the analysis of the two principles, and the different circumstances attending their uses.

Fig. 2.

With the Revolving Platform of Emery's Patent Railway Power, the force of the horses is always applied tangentially, or at right angles to the radius of the reels or drums, and at their periphery; and consequently communicating the entire force through the reels or drums, to the machines intended to be driven, and without any loss by any indirect application. Not so, however, with the Levers of a Sweep Power. The force of the horses being applied to the ends of the levers, and their advance being in a circular direction, the application is not in a right but in an acute angular direction with the lever—the degree of acuteness depending upon the various lengths of the levers. It is self-evident, that whatever the difference of the angle of application of the force of the lever may be less than 90°, or a right angle, just such a ratio of loss of effective force is the consequence, and the shorter the levers, the more acute this angle of application, and greater the loss. The proprietors have carefully computed the relative force and loss, with four levers of different lengths, as shown by the following table, and have computed the length of a lever required to perform the same work with the same force, were it applied tangentially, as in the Endless Railway Power.

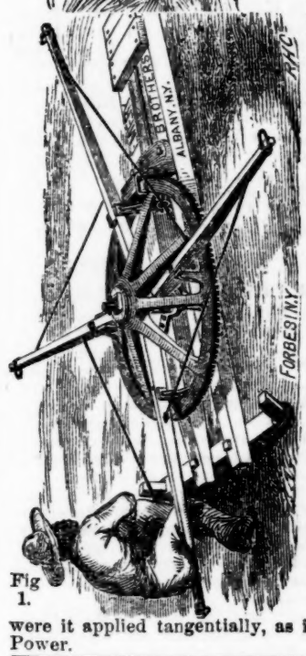


Fig 1.

Length of Levers.	Angle of application.	Length required if applied at right angles.	Loss by acute over right angle application.
14 feet.	65°	12 feet 6 inches.	9½ per cent.
12 "	60	10 " 5 "	15½ "
10 "	54	8 "	25 "
8 "	42	5 " 2½ "	54 "

The operation of the machines upon these two principles, show results which prove conclusively the accuracy of the foregoing table, as will be seen from the following table of the relative cost and results of operating them; and supposing the farmer to own both kinds of Powers and the horses, and not charging anything for interest or wear of either, which, if computed, would be against the Lever Power.

Emery's Patent Endless R Road Power. Average result for 10 hours		Emery's Patent Lever or Sweep Horse Power. Average result for 10 hours.	
Four men to attend, $1,	$4 00	Ten men at $1,	$10.00
Two horses, 50c each,	1.00	Eight horses, 50 cts.,	4.00
Boarding men and horses, 37½c. each,	2.25	Boarding men and horses, 37½c.,	6.75
	$7.25		$20.75
Average amount of wheat, 200 bu.; cost for threshing, 3 cts. 6 mills per bushel.		Average amount of wheat, 300 bu.; cost for threshing, 6 cts. 9 mills per bushel.	

Making the work by the Lever Power cost 92 per cent. more per bushel than with the Railway Power.

Notwithstanding this disparaging show of the two machines, the Lever Power has the advantage of increasing the number of horses almost indefinitely, and by so doing can aggregate a greater force, and perform more work in a given time, and with horses and mules which would be unfit from their small size, to operate any Two-Horse Railway Power to advantage; and a Railway Power for more than two horses, is impracticable and worthless, and from its double cost, cumbrousness and weight, can never be substituted for the Lever Powers.

Therefore, where time is the greatest consideration in getting out a crop, or horses, mules, &c. unfit for the Railway Power, the Lever Power becomes a necessity, and always will be used under such circumstances. The annexed cuts represent Emery's latest improved Lever Power, as adapted for driving all kinds of machines made at the Albany Agricultural Works. Fig. 1 shows the master wheel with the levers attached, and the pinion, and a portion of the ground shaft and timbers. Fig. 2 shows the other end of the said shaft and timbers, with the jack and band wheel attached, for driving directly by the band any machines desired. The timbers and shaft are planked over where the horses cross them, thus avoiding injury to the horses and machine. This band wheel is much preferred over the horizontal band wheel which most manufacturers are selling, as no intermediate guide rollers and pulleys are required for twisting and changing the direction of the band, to apply it to the several machines.

Price of Power, with Levers, Band Wheel, &c., complete, ---------- $125.00

Price of Power, without Levers, ---------- 118.00

For full description, prices, terms, and warranty, see Illuminated Catalogue just published, which will be furnished gratis to all applicants, on receipt of six cents to prepay postage on same. EMERY BROTHERS,

Mar17—w&m1t 62 & 64 State-st., Albany, N. Y.

PERUVIAN GUANO.—No. 1 Peruvian Guano, Government Brand and Weight, direct from the Peruvian Agents, at the lowest market price, in quantities to suit purchasers. Send for a Circular. A. LONGETT,

Mar 1—w&m3ms 34 Cliff-st., New-York.

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New-York, March 10, 1859—w&m9ms

Contents of this Number.

The Farm.

The Farmer's Discouragements, ... 105
The Indian Corn Crop, ... 106
Pipes for Carrying Water, by R. MILLS, ... 106
The Wire Worm, ... 107
Manuring Corn in the Hill, ... 107
Reclaiming Swamps—Surface Draining, ... 108
Stump Puller, by D. A. A. NICHOLS, ... 109
Turnip Fly, by W. F. BASSETT, ... 110
Jenkin's Cast-Iron Fence Post, ... 111
Share's Cultivating Implements, ... 111
Scotch Fife Wheat, by W. O. BUELL, ... 111
Pumping by Wind Power, ... 112
Sugar Cane Mills, by INDIANA, ... 112
Raising Potatoes under Straw, by C. E. GOODRICH, .. 112
The Sweet Potato at the North, by C. B. MURRAY, .. 113
Potato Culture, by D. S. C., ... 114
Notes about Potatoes, ... 116
Turf Ashes and Bone Manure, ... 116
Wheat and Chess, ... 117
Clover Seed on Prairie Sod, ... 117
The same Land Fruitful and Unfruitful, ... 118
Culture of Indian Corn, by C., ... 118
Sugar Cane Molasses and Mills, by T. H. M., ... 118
Turnip Culture, by W. O. BUELL, ... 118
The Hydraulic Ram, ... 120
Scotch Harrow, ... 121
Tile Machines and Tiles, by E. MASON, ... 122
Culture of Hungarian Grass, by W. DENNIS, ... 122
Early June Peas, by W. O. BUELL, ... 122
Fence-Making—Inverted Posts, ... 122
Hen Manure, &c., for Corn, by B. & SON, ... 123
Mangold Wurzels, by THOMAS BAIN, ... 123
Hen Manure for Corn, by M., ... 124
Wetherel's Horse Hoe, ... 125
Share's Implements, by E. ARNON, ... 125
Reaping Machines and Tread Powers, ... 125
Barley—Rotation of Crops, by F., ... 126
Letter from JOHN JOHNSTON, ... 126
Draining with Boards, by E. O., ... 126
Inquiries and Answers, ... 127
Notes for the Month, ... 129

The Grazier.

Suppurating Knots on Cow's Jaw Cured, by J. W. C., 114
Flaxseed, Oil-Cake and Corn, by A. B. DICKINSON, .. 115
Thoughts about Oxen, ... 116
Popular Breeds of Cattle in England, ... 123
Stabling Cattle—Manure, by F. F., ... 128

Dairy Husbandry.

Milk for a Pound of Butter, ... 108
Visit to a Swiss Cheese Dairy, by A. CHAVANNES, ... 110
Profit on Milk and Butter, ... 119

Horticultural Department.

Winter Cherry, by F. A. FLEMING, ... 109
Remedy for Squash Bug, ... 110
Winter Bouquets, by W., ... 112
Saddle Grafting, ... 114
Japan Apple-Pie Melon, by W. J. RALSTON, ... 117
Hubbard Squash, ... 120
Hooker's Seedling Strawberry, ... 120
Summer Bouquets, by W., ... 121
Trenching Land for Vineyards, ... 124

Domestic Economy.

Making Vinegar Rapidly, ... 113
To Drive away Rats, ... 113
Chimney Caps—Smoking Prevented, ... 114
Protection from Rats, by J. COPE, ... 117

Rural Architecture.

Laborer's Cottage, ... 109

The Apiary.

Keeping Bees in Rooms, ... 110
Management of Bees, by E. P., ... 124

The Poultry-Yard.

To Make Money with Poultry, by F. A. NAUTS, ... 119
Fancy Pigeons, by D. S. H., ... 121

Illustrations.

Iron Fence Posts, ... 111 | Share's Implements, ... 111
Saddle Grafting, ... 114 | Chimney Cap, ... 114
Hubbard Squash, ... 120 | Hooker Strawberry, ... 120
Scotch Harrow, ... 121 | Fancy Pigeons, ... 121
Laborer's Cottage, ... 109 | Horse-Hoe, ... 125

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